

W I D E E Z E F U E A G H E O G T

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 1 of 45

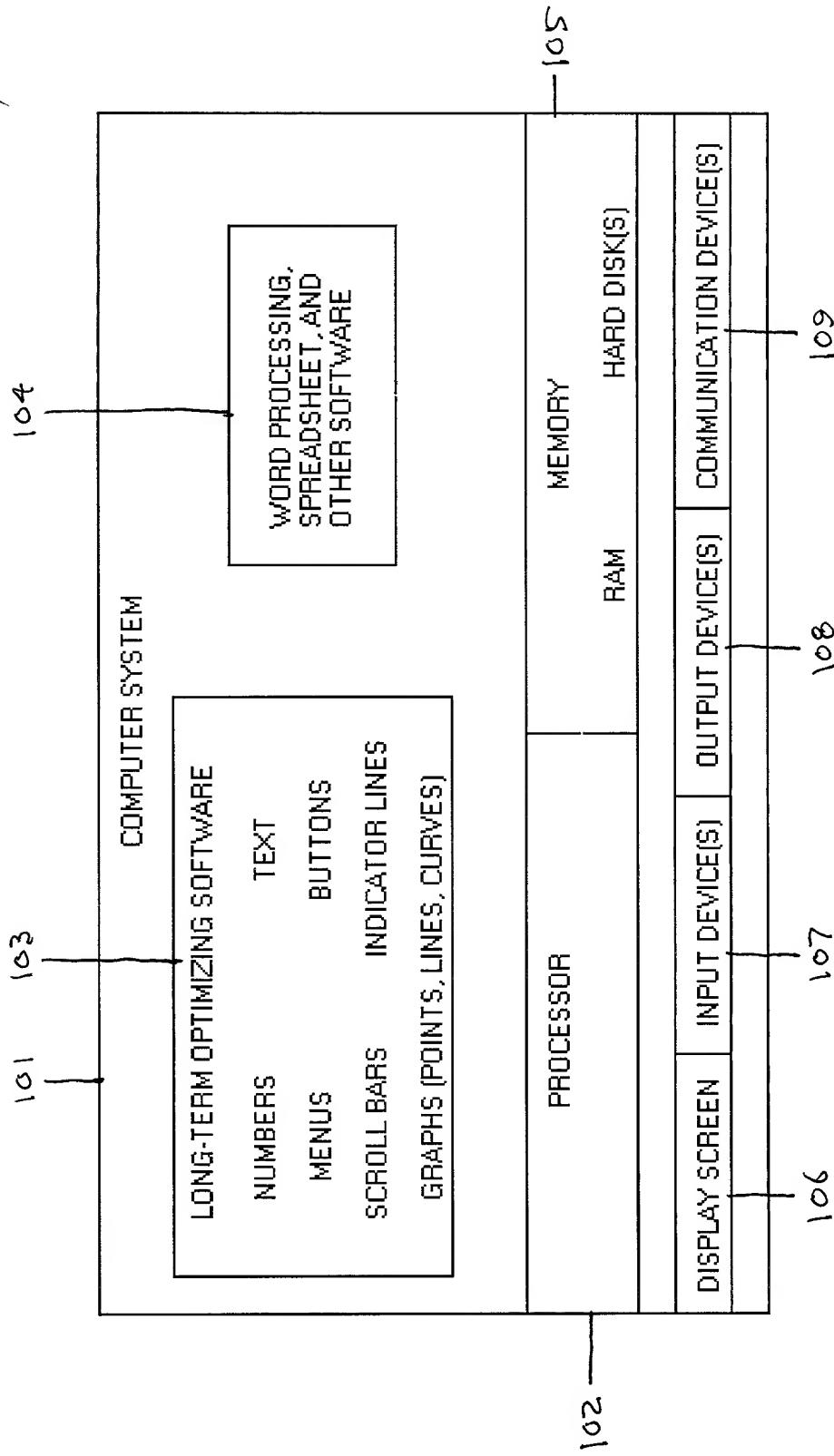
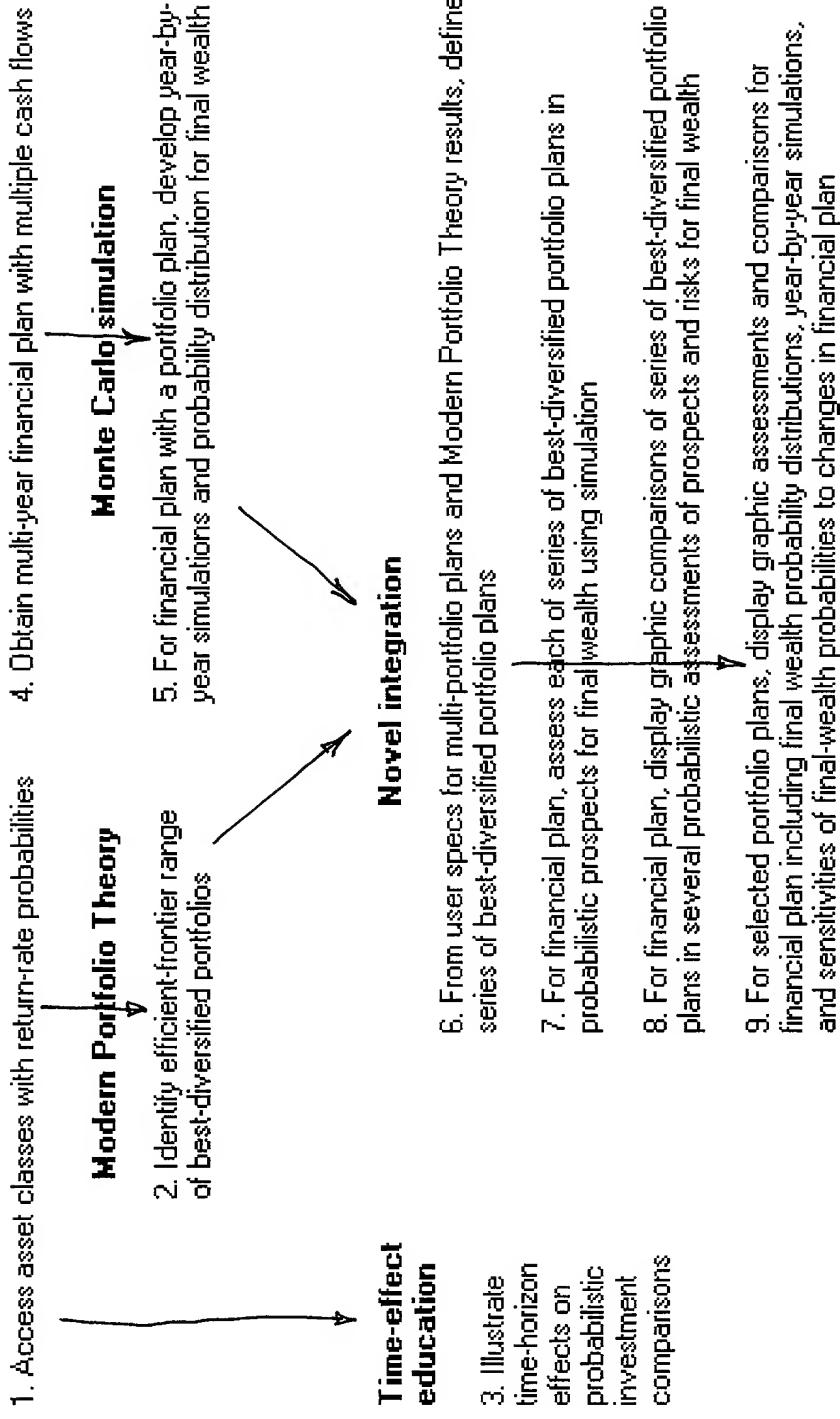


FIG. 1

**FIG. 2**

Filing Date: Dec. 28, 2001

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
 Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 3 of 45

305 301 302 303

304

Asset Classes		Return rates, %			Correlation coefficients – between pairs of numbered asset classes										
	Asset class	Expected	Std. dev.	1	2	3	4	5	6	7	8	9	10	11	12
1	US Large caps	13.0	20.0	0.66											
2	US Small caps	13.8	25.0	0.48	0.51										
3	Intl Equities	10.5	21.5	0.48	0.51										
4	US Fixed income	5.2	7.8	0.40	0.35	-0.11									
5	US T-bills	3.6	2.7	0.12	-0.18	0.26	0.39								
6	Intl Fixed	5.4	13.7	0.10	-0.02	0.07	0.37	-0.18							
7	US Real estate	11.4	20.7	0.14	0.62	0.01	-0.28	-0.23	-0.07						
8	US All stocks	13.0	22.0	0.99	0.75	0.49	0.43	0.08	0.10	0.23					
9	US L-cap growth	12.8	23.1	0.96	0.52	0.42	0.27	0.13	0.16	-0.06	0.93				
10	US L-cap value	13.7	16.9	0.86	0.77	0.47	0.55	0.06	0.00	0.47	0.89	0.68			
11	US Midcap growth	13.4	24.2	0.81	0.75	0.54	0.20	0.02	-0.01	0.11	0.84	0.81	0.63		
12	US Midcap value	12.3	20.8	0.59	0.81	0.18	0.62	-0.02	-0.06	0.75	0.66	0.38	0.84	0.41	
13	US S-cap growth	12.6	25.0	0.73	0.89	0.62	0.19	-0.09	0.05	0.27	0.79	0.68	0.64	0.94	0.50
14	US S-cap value	15.4	25.0	0.34	0.80	0.18	0.45	-0.21	-0.11	0.86	0.44	0.12	0.66	0.27	0.93
15	US Govbonds II	5.1	5.7	0.34	0.27	-0.18	0.99	0.44	0.39	0.23	0.37	0.25	0.45	0.18	0.53
16	US Govbonds LT	5.8	12.4	0.34	0.29	-0.04	0.96	0.24	0.35	0.30	0.36	0.18	0.56	0.08	0.63
17	US Muni bonds	4.3	10.8	0.29	0.36	-0.06	0.94	0.25	0.34	0.40	0.33	0.11	0.56	0.08	0.66
18	US Corp bonds	5.4	10.0	0.47	0.45	0.00	0.98	0.26	0.47	0.34	0.51	0.33	0.62	0.27	0.68
19	US HiYield bonds	5.0	12.8	0.52	0.88	0.34	0.42	-0.30	0.35	0.65	0.62	0.43	0.58	0.57	0.73
20	Euro equities	10.9	20.1	0.79	0.43	0.74	0.22	0.00	0.12	0.01	0.76	0.73	0.57	0.33	
21	EmergCo equities	11.3	35.5	0.26	0.59	0.62	0.04	0.01	-0.11	0.12	0.32	0.21	0.28	0.59	0.17
22	Venture capital	14.3	38.3	0.52	0.38	0.53	-0.27	-0.35	0.07	-0.20	0.51	0.61	0.23	0.78	-0.07

306

FIG. 3

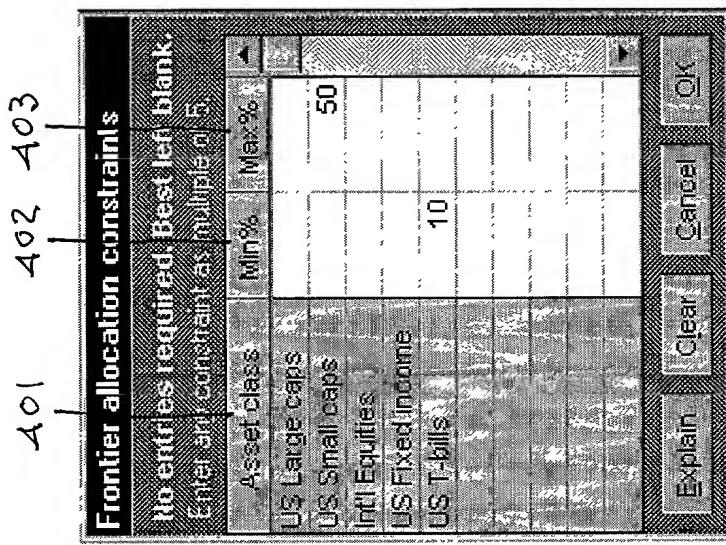


FIG. 4

Patent Application

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 5 of 45

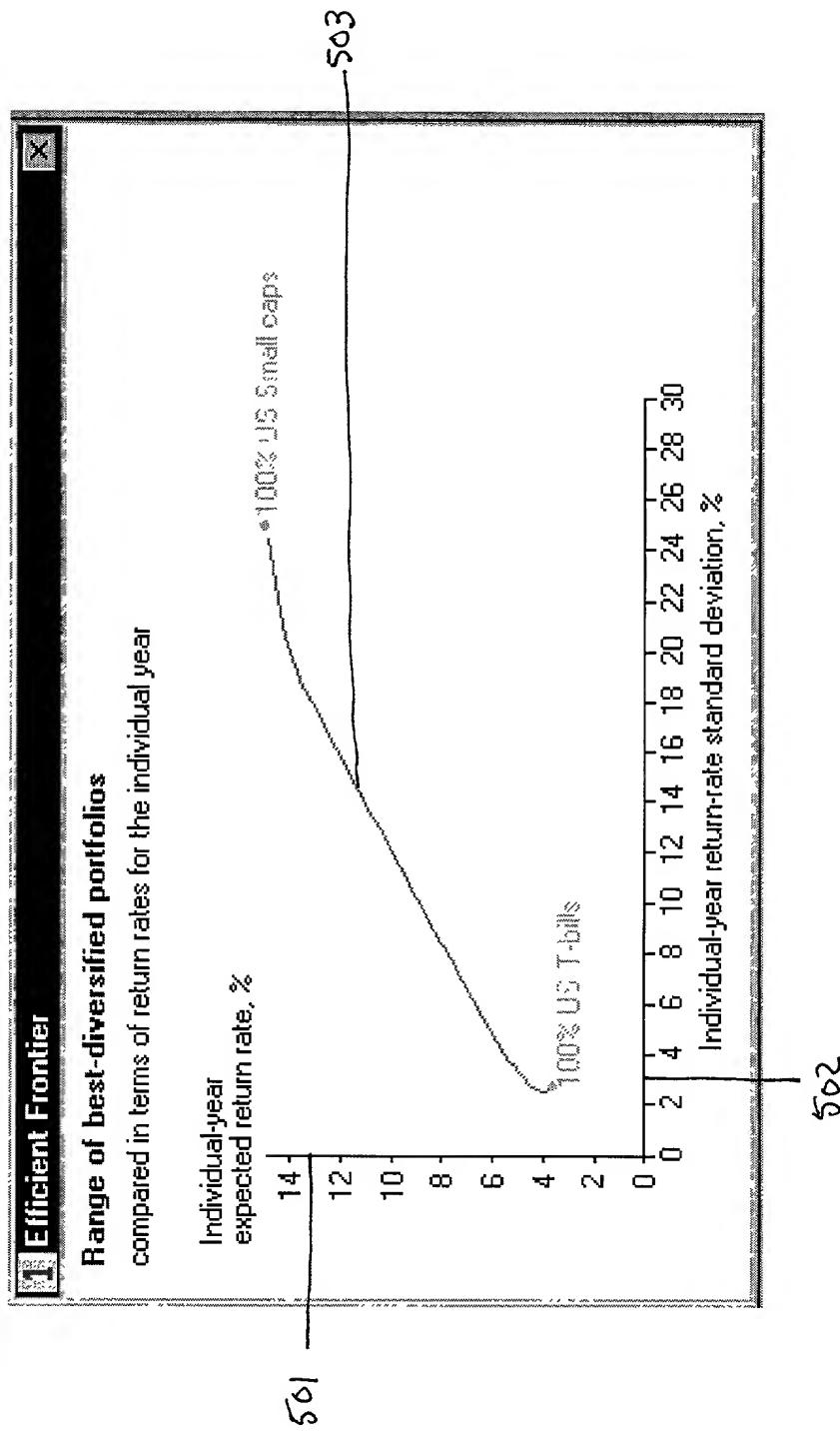


FIG. 5

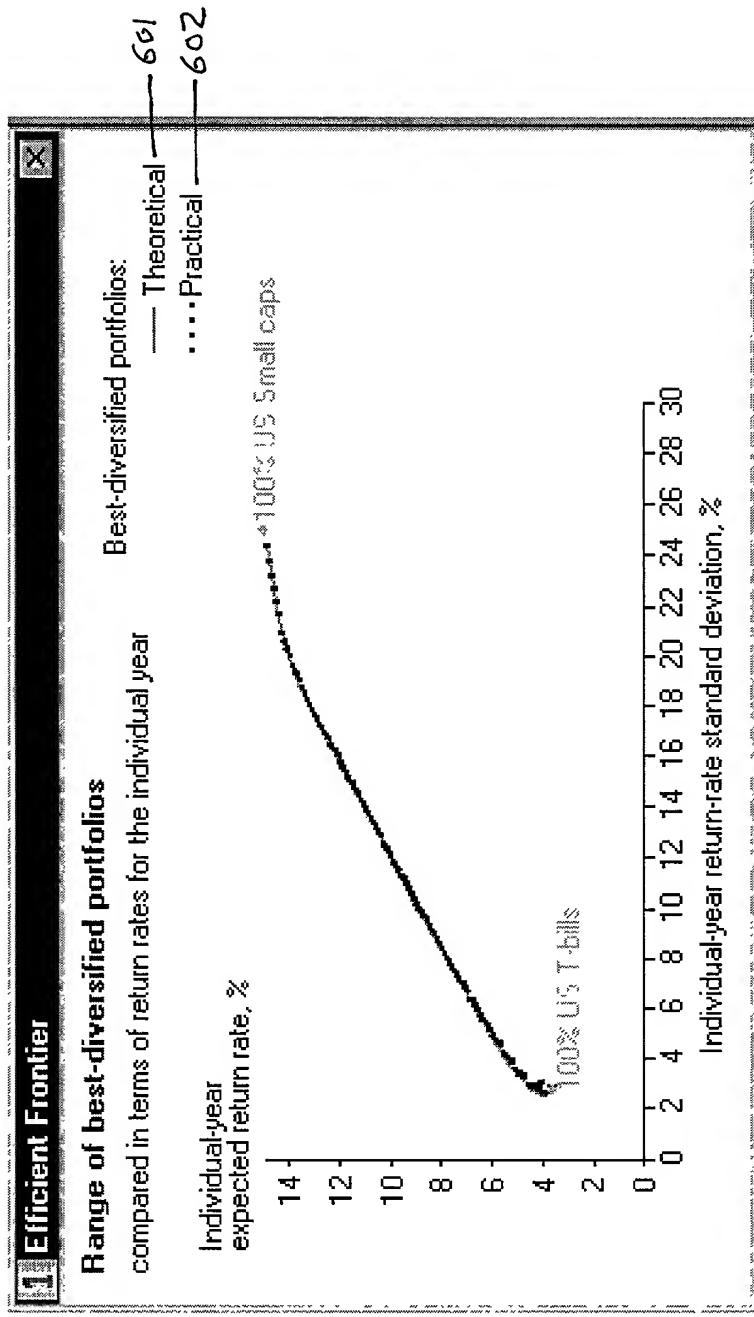


FIG. 6

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals

Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 7 of 45

701

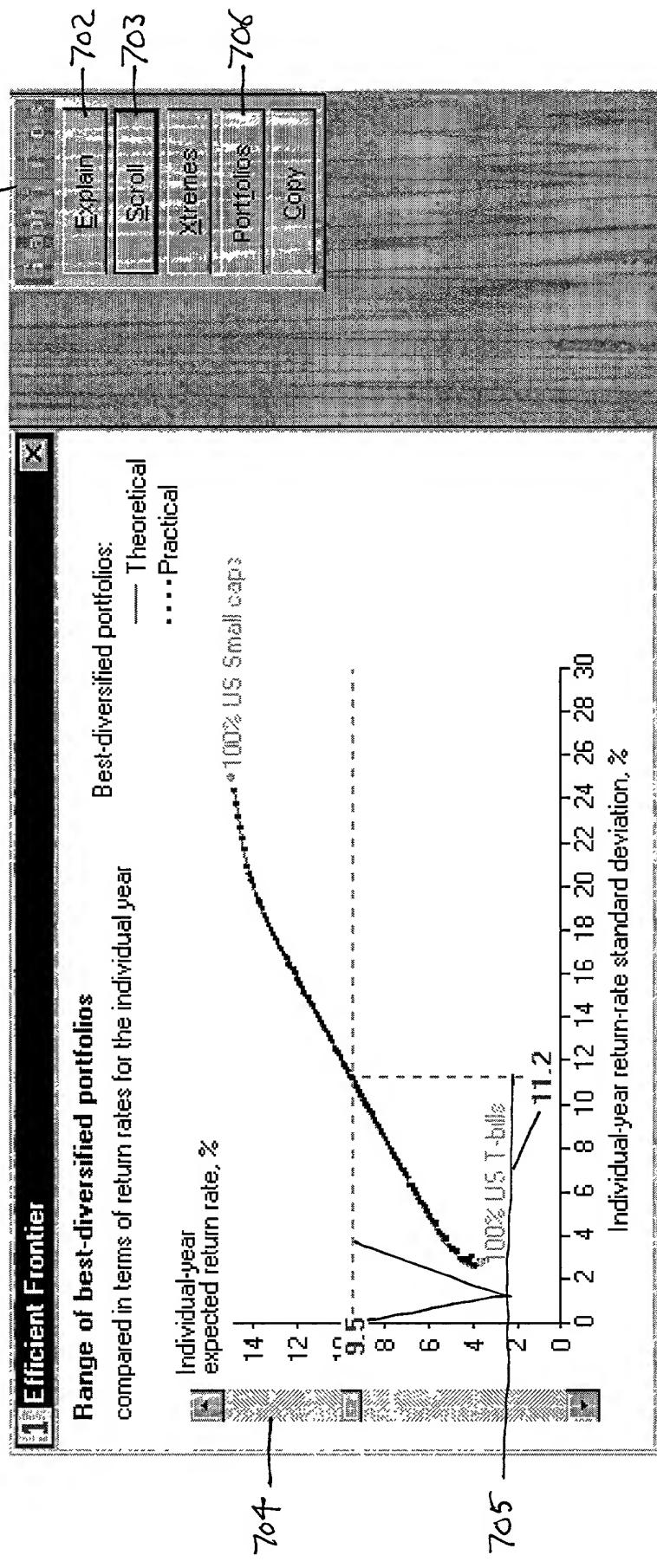


FIG. 7

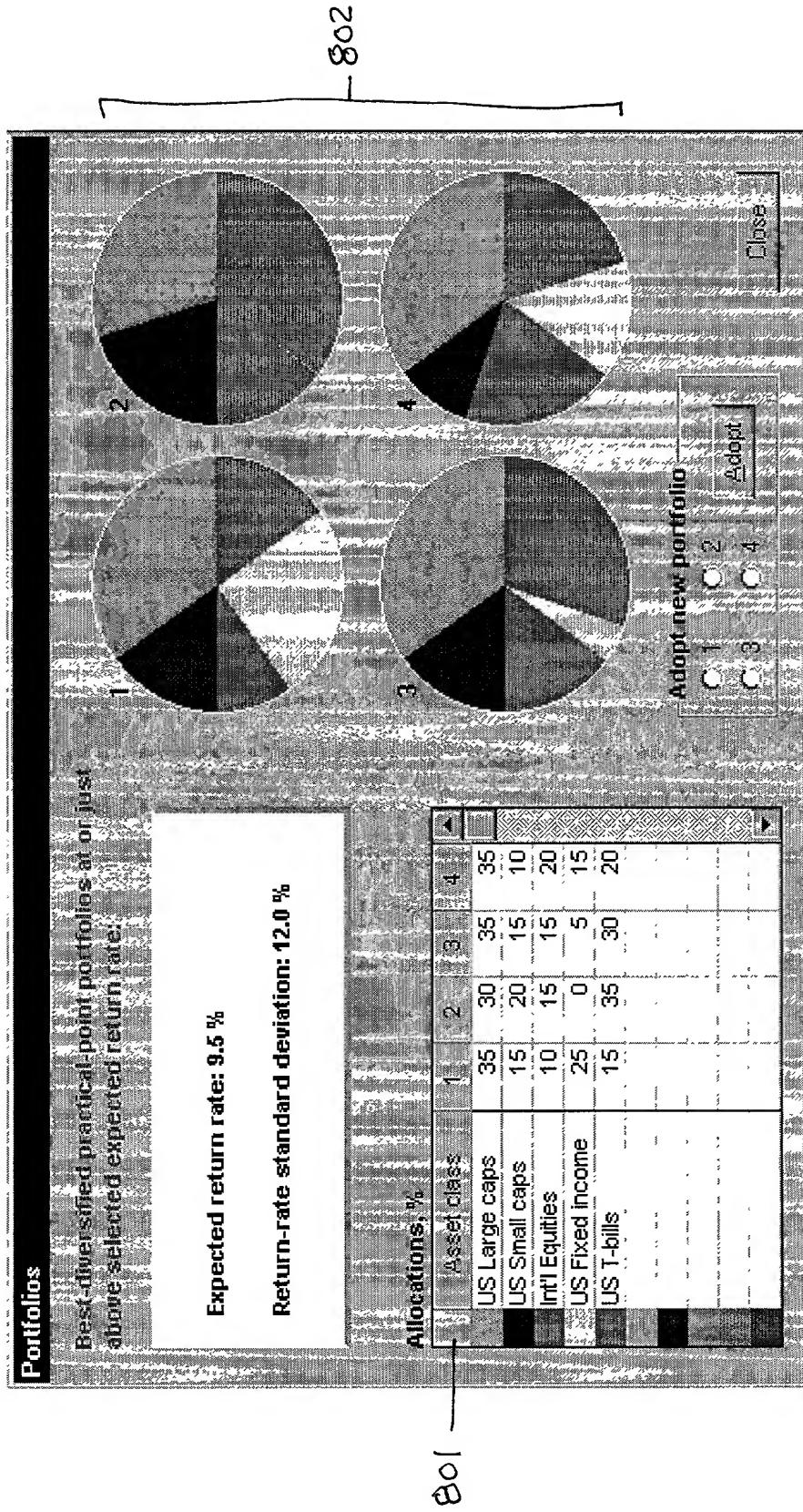


FIG. 8

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 9 of 45

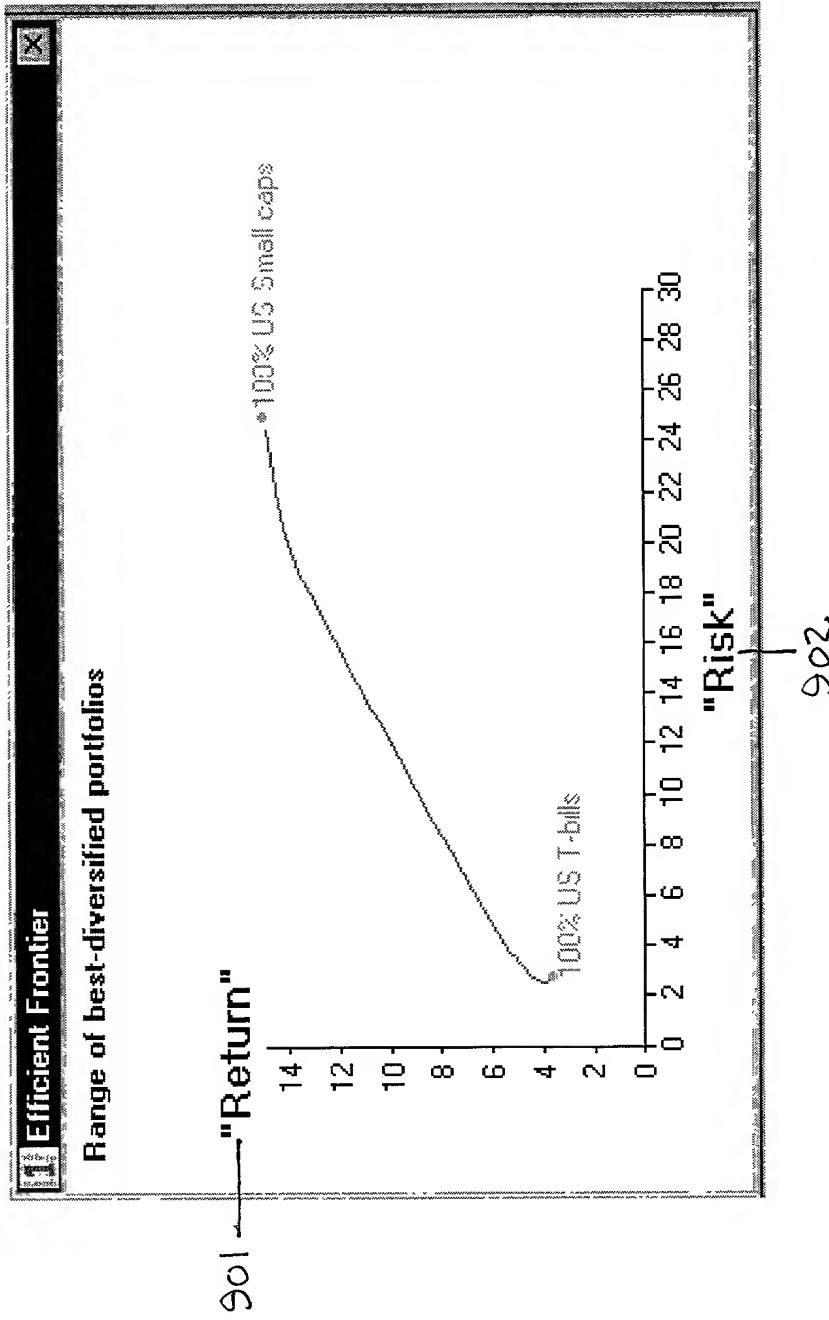


FIG. 9

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
 Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 10 of 45

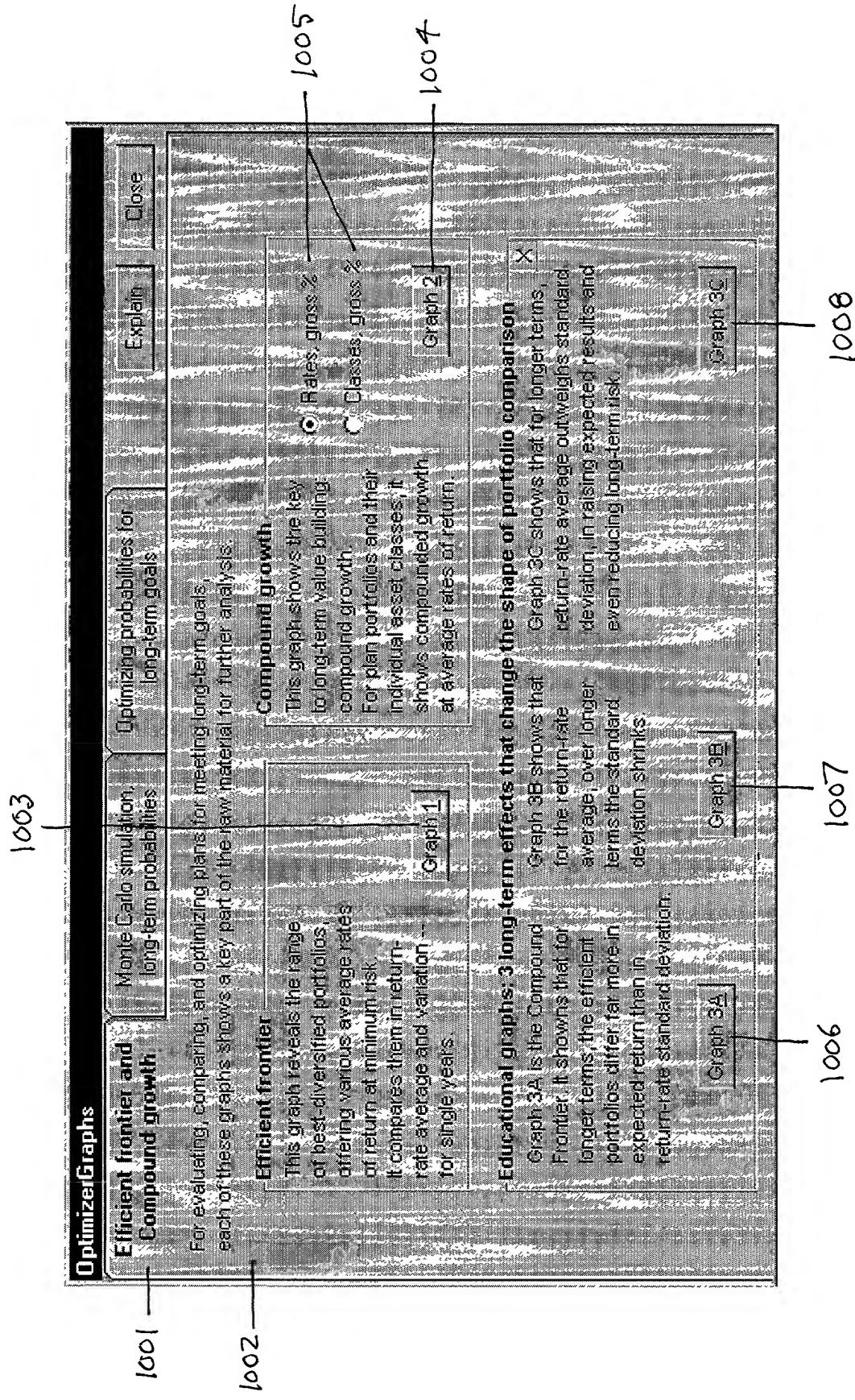


FIG. 10

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 11 of 45

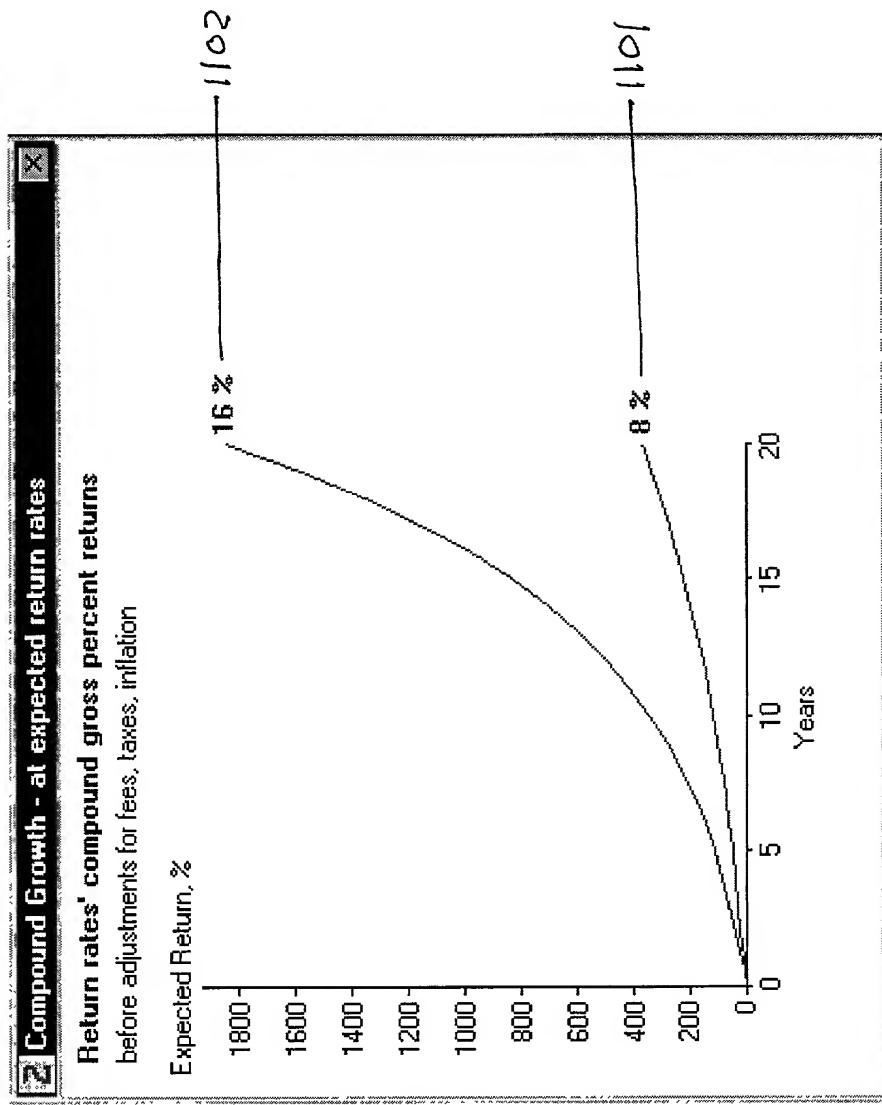


FIG. 11

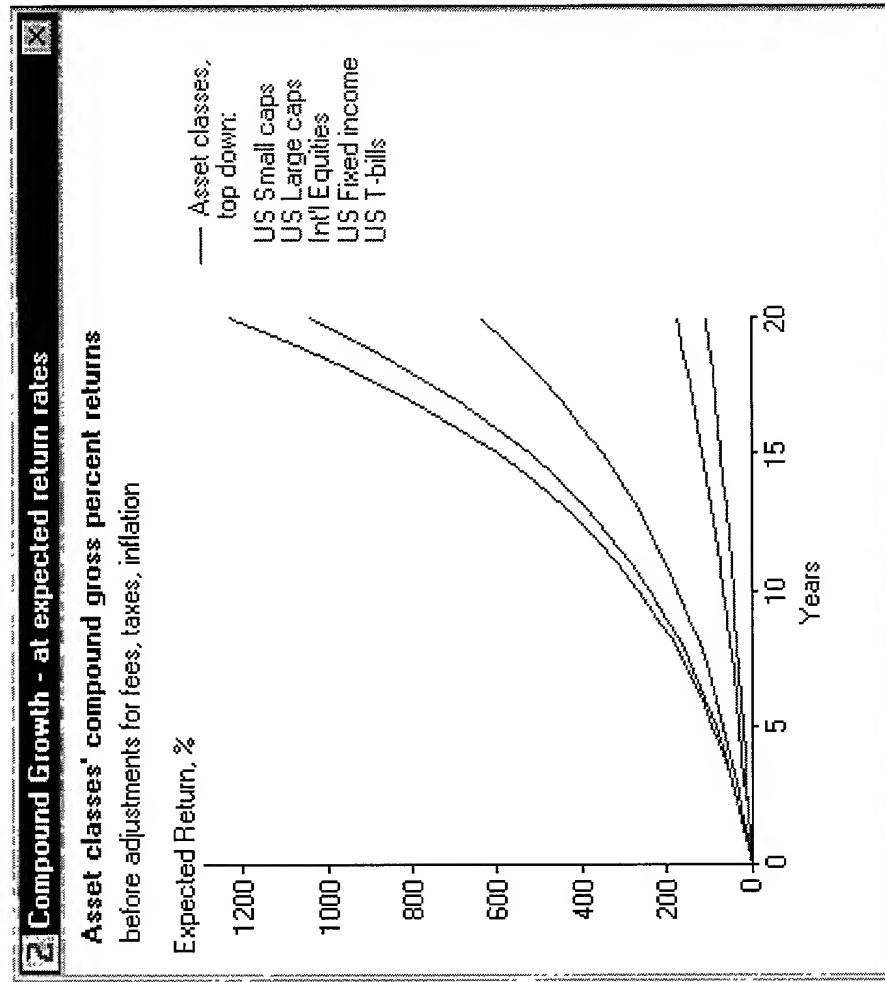


FIG. 12

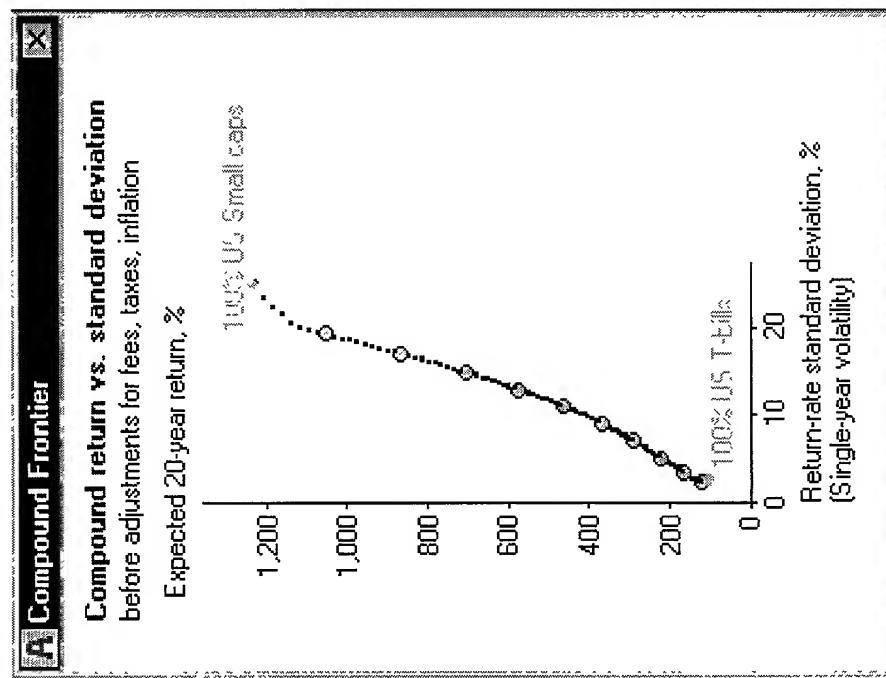


FIG. 13

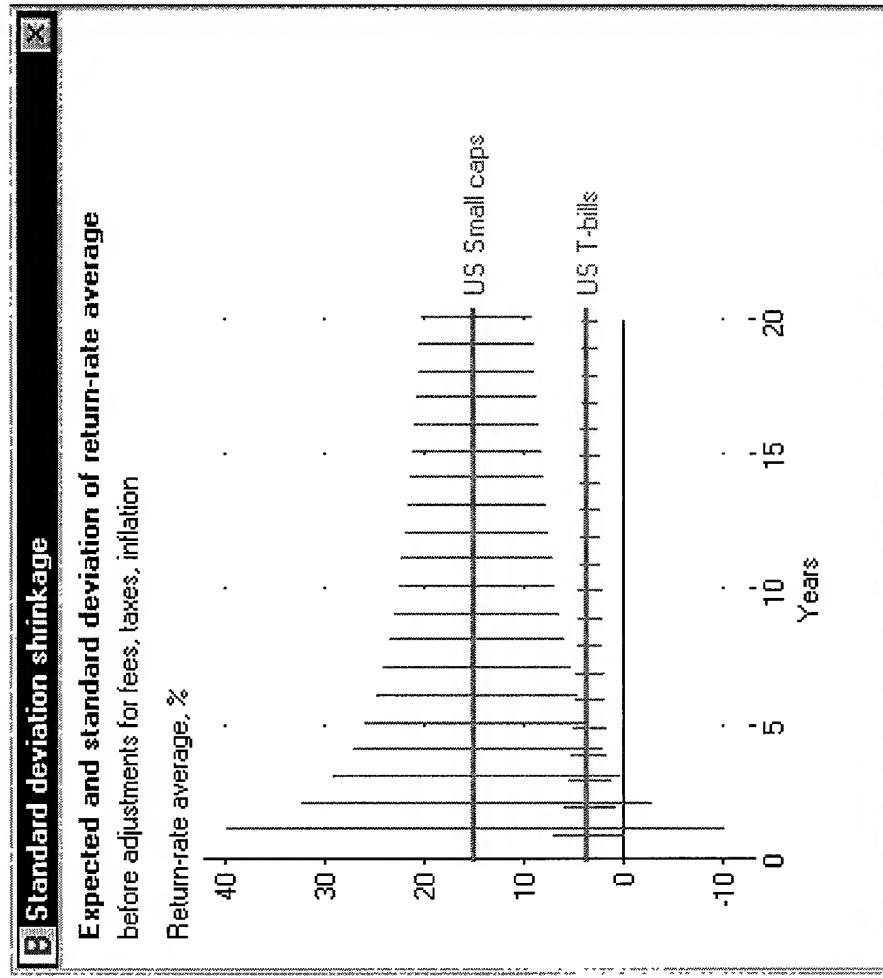


FIG. 14

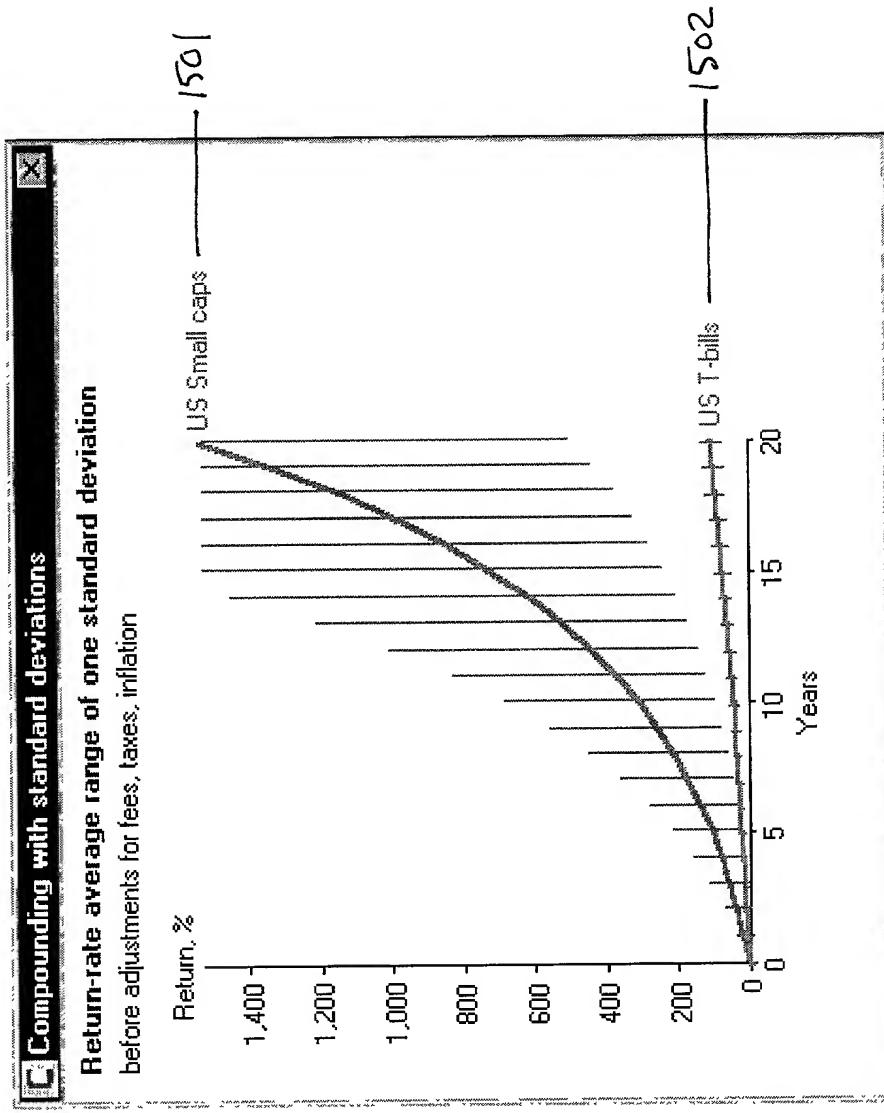


FIG. 15

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
 Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 16 of 45

Client Entries			
Client	Fred & Sonja Smedley		
	Age	Name	Year
	54	Fred	2000
	52	Sonja	
Address	3221 Collinsworth Fort Worth, TX 76107		
<input type="button" value="OK"/> <input type="button" value="Cancel"/> <input type="button" value="Clear"/>			
<input type="button" value="Cash flow"/> <input type="button" value="Explain"/>			

Retirement			
Enter \$ amounts in today's prices reflecting today's prices.	Number of years in plan	20	Annual retirement budget \$ 60,000
	Years to retirement	12	End Value (final balance) \$ 200,000
	Life expectancy table		

College			
Student	Start year	Annual amount \$	Number of years
1 Helga	3	30,000	4
2			
3			
4			

Other future fund-use goals			
Purpose	Start year	Start amount \$	Number of years
1 A-frame	12	100,000	1
2			
3			
4			

FIG. 16

卷之三

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 17 of 45

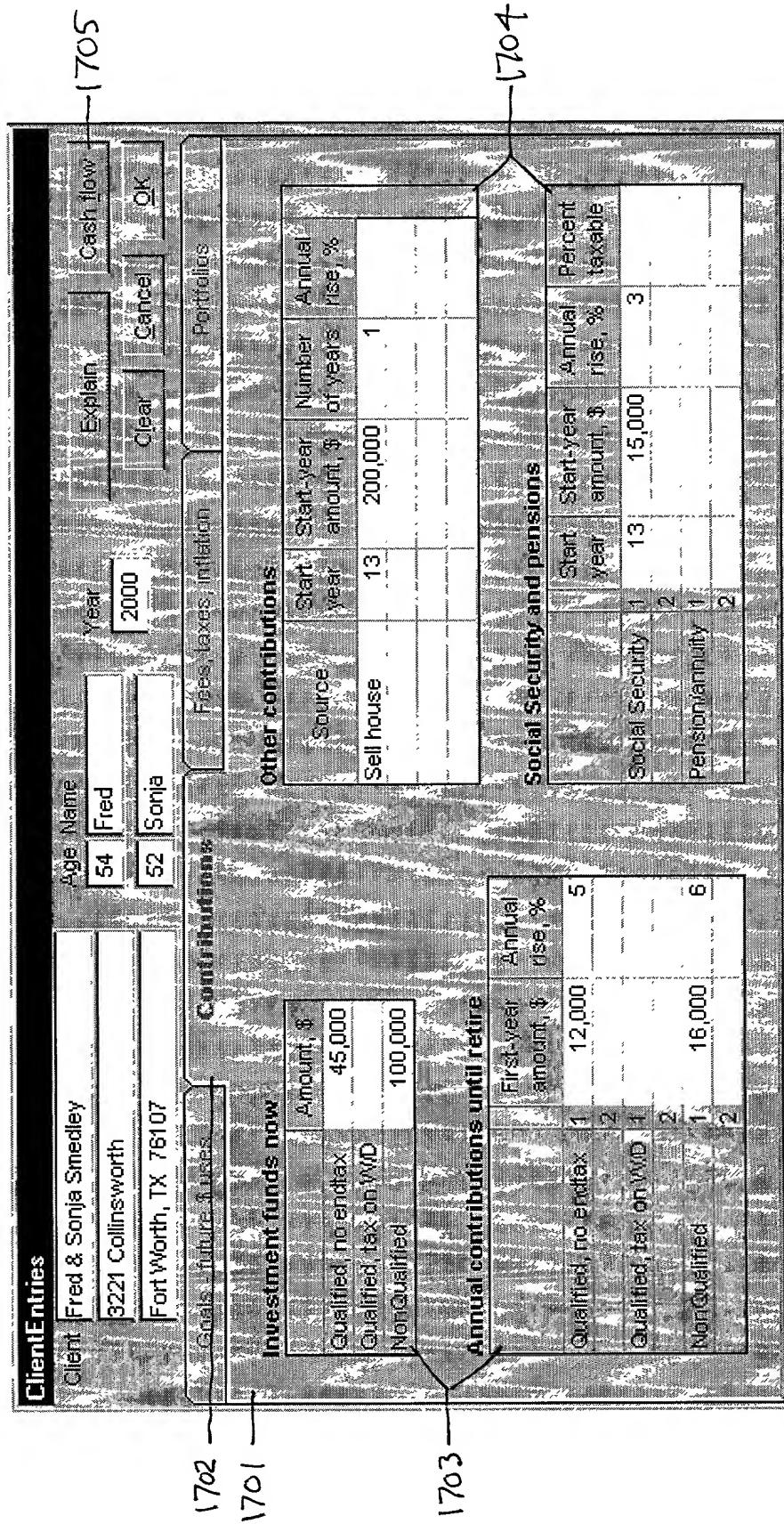


FIG. 17

卷之三

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 18 of 45

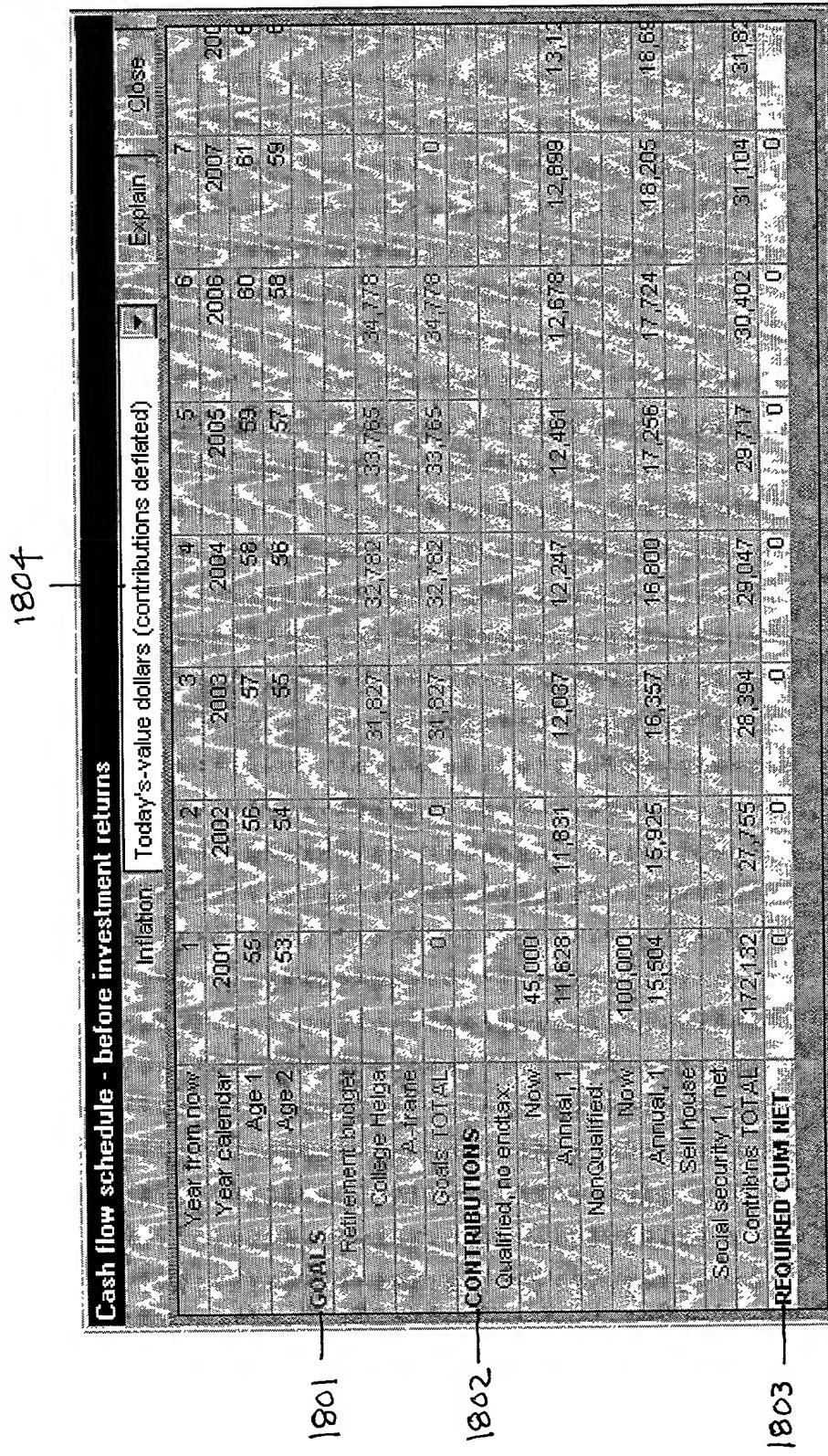


FIG. 18

ClientEntries		Age		Name		Year		Explain		Cash flow	
Client	Fred & Sonja Smedley	54	Fred	52	Sonja	2000		Clear	Cancel	OK	
Goals - Future Purses											
Conditions											
Fees, charges, initiation rates											
Initiation rates %											
General rate 3.2											
College premium 3.0											
Tax rates %											
Old		Cap									
PreRetired		35		20							
Retired		28		15							
Select asset classes											
Fees, annual % asset value											
How Non-Qualified assets' returns will be taxed, as % of the asset's total return											
Asset class		Qual		Non Qual		4% earned each year		Upon sale (turnover)		At end of withdrawal	
1901		1903		1905		1907		1908		1909	
US Large caps		0.60		1.00		20		80		0	
US Small caps		0.60		1.00		20		80		0	
Intl Equities		0.60		1.00		20		80		0	
US Fixed Income		0.60		1.00		100		0		0	
US T-bills		0.60		1.00		100		0		0	

FIG. 19

To Date at the End

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
 Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 20 of 45

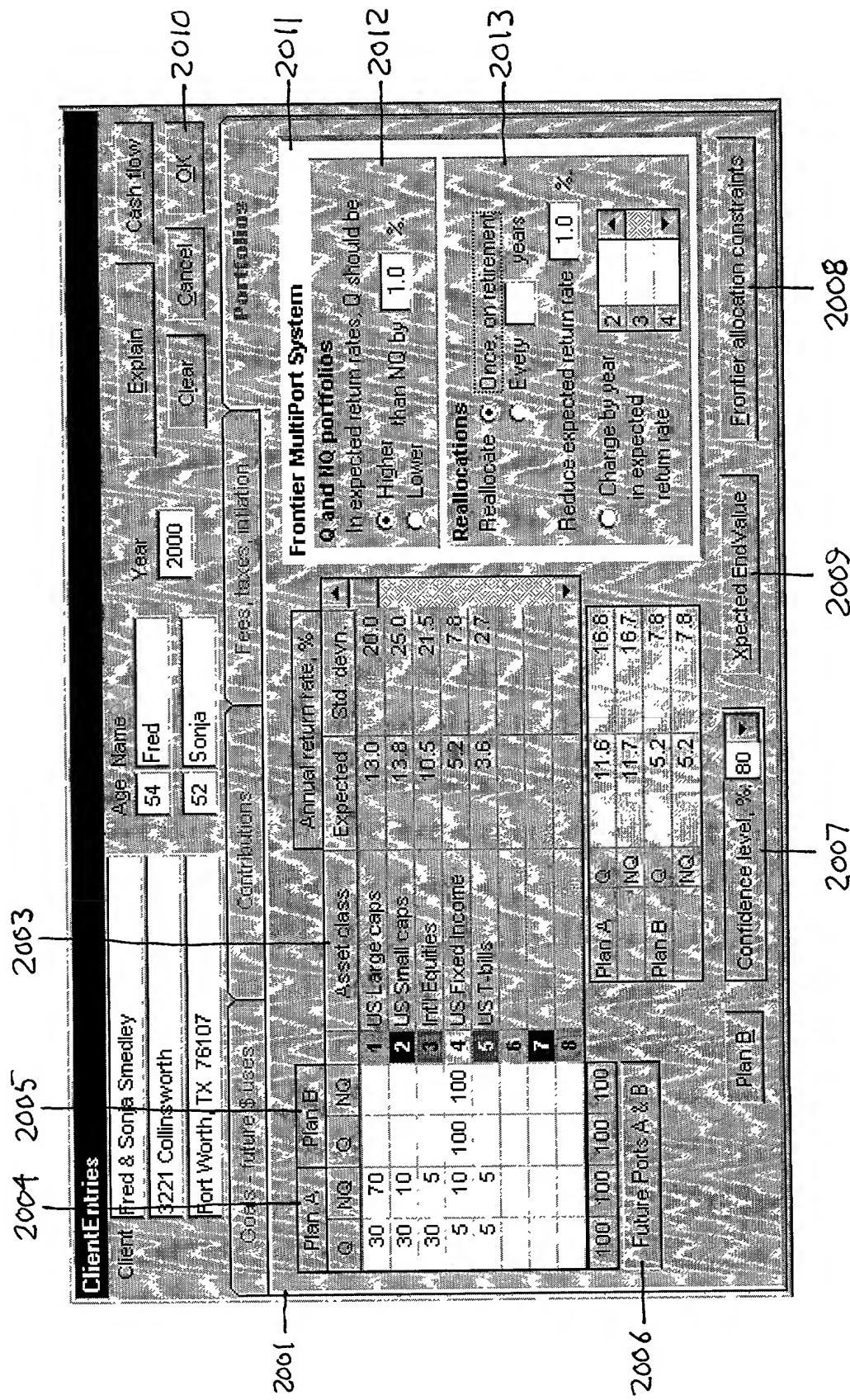
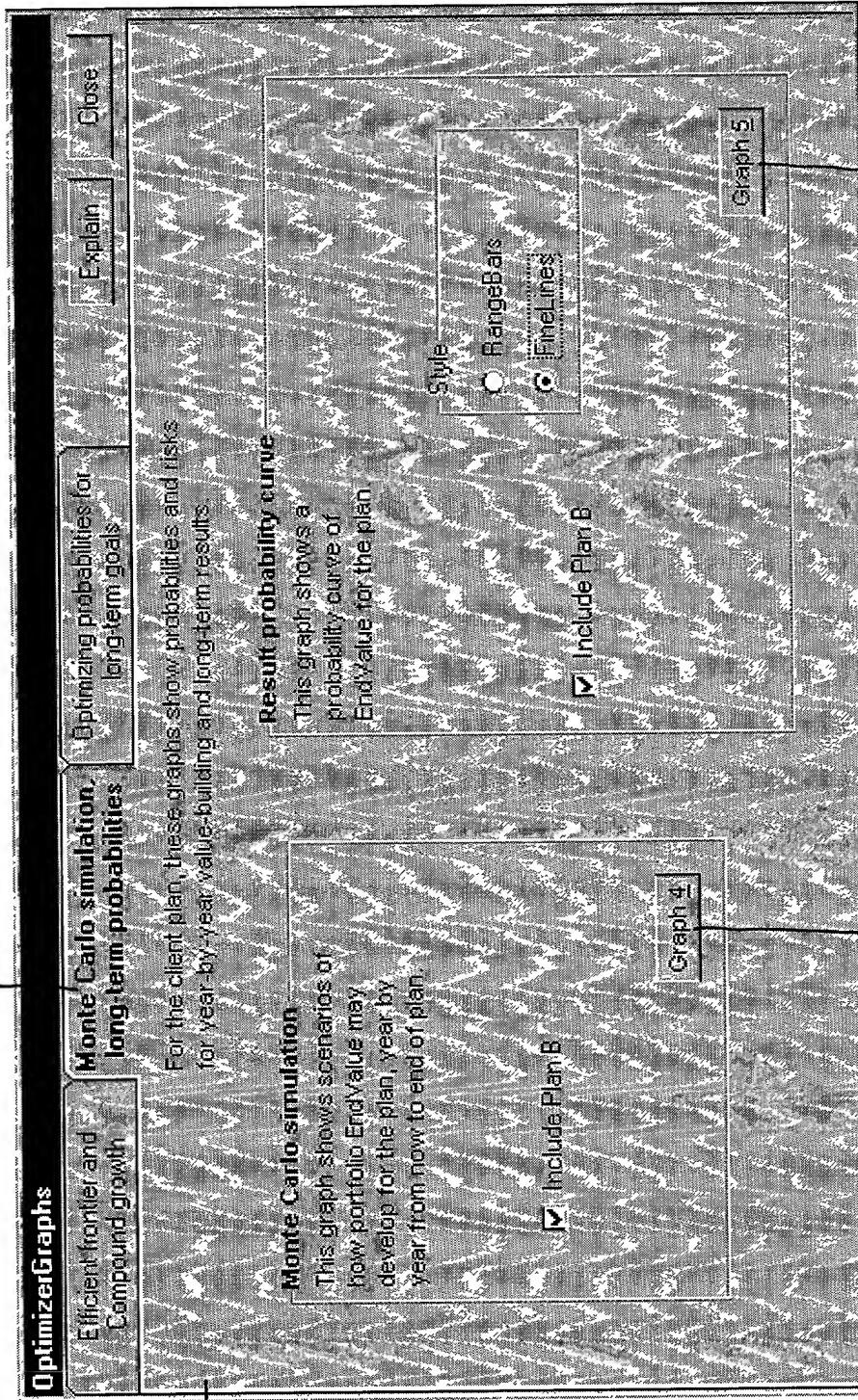


FIG.20

2101



2103

2104

FIG. 21

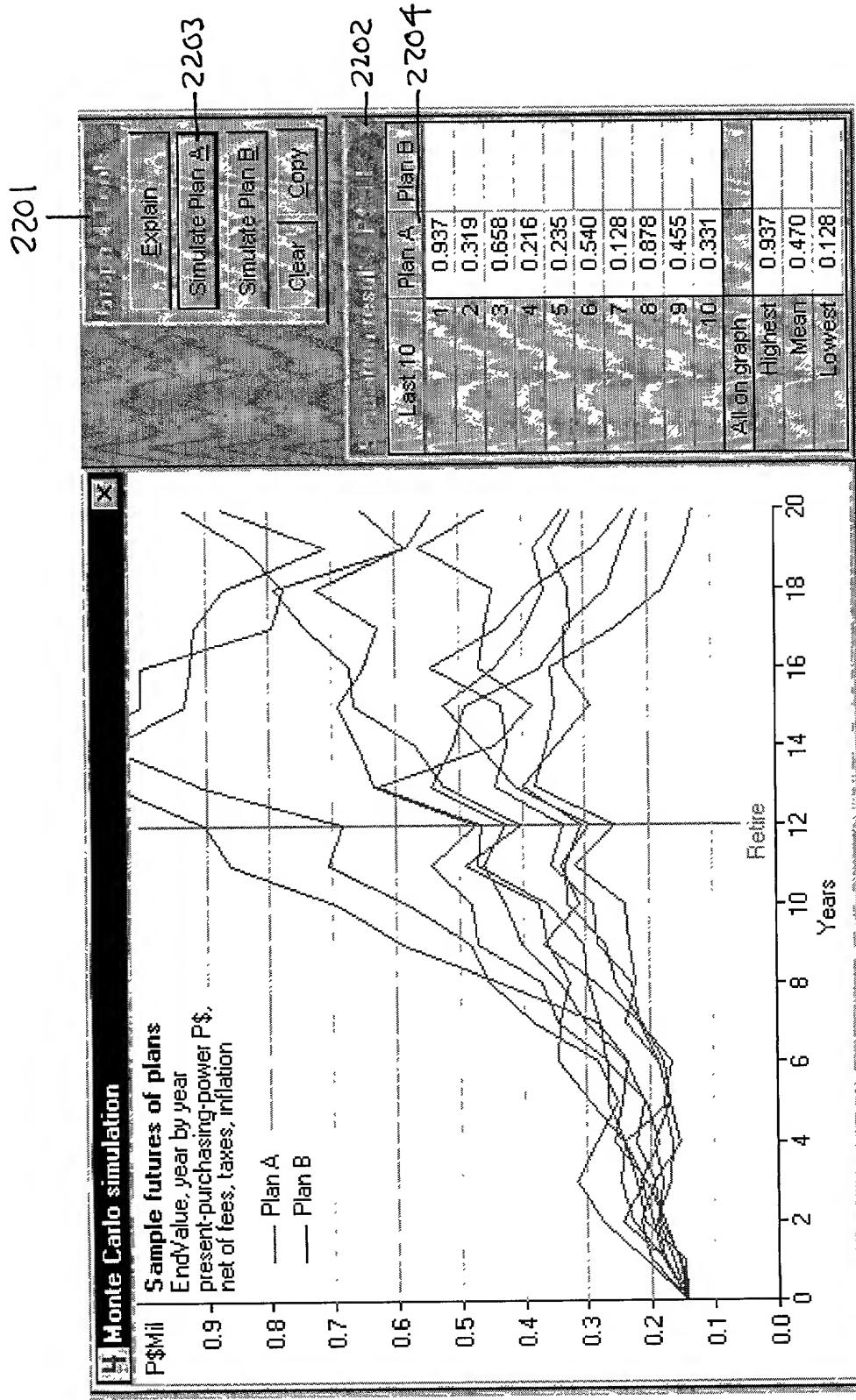


FIG. 22

Page 23 of 45

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 23 of 45

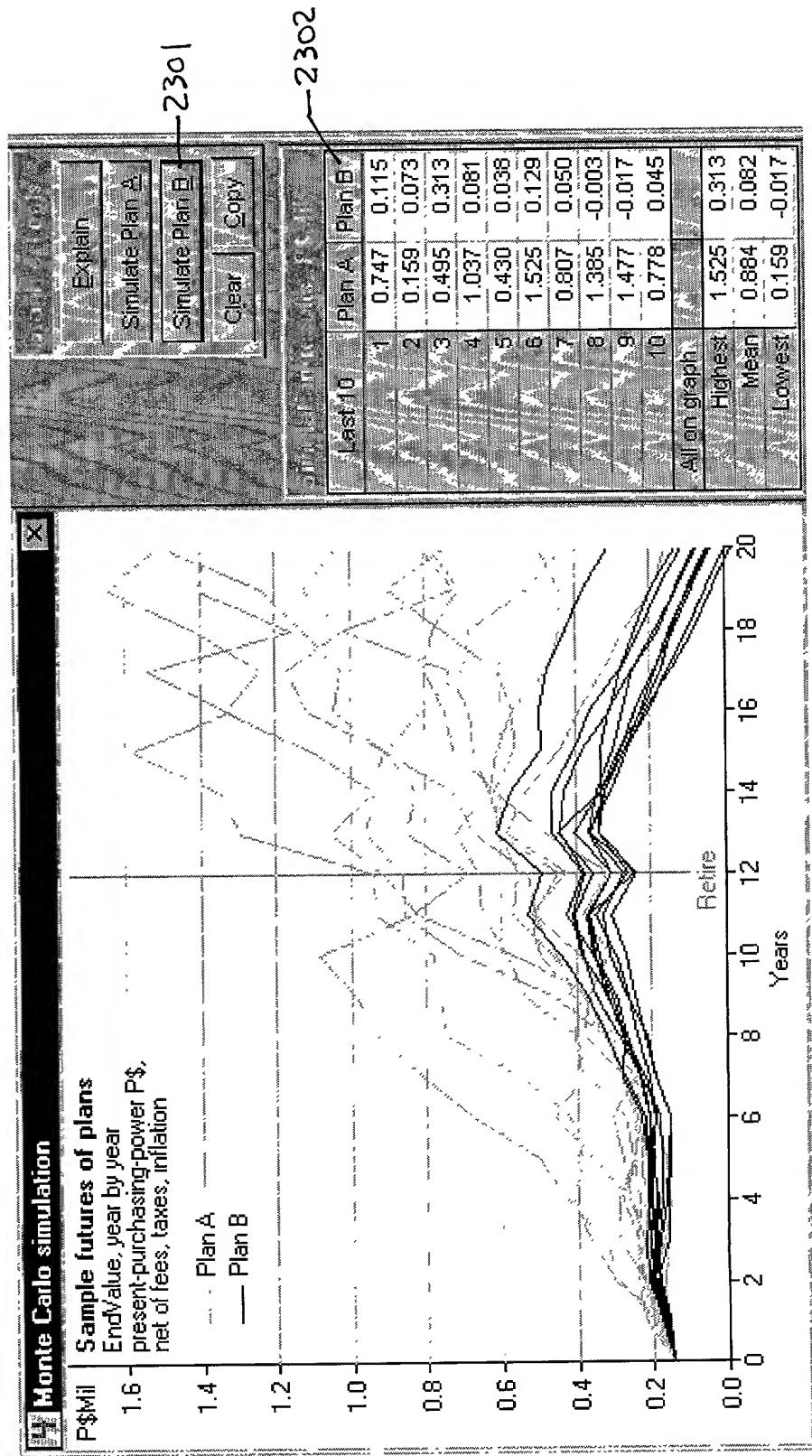


FIG. 23

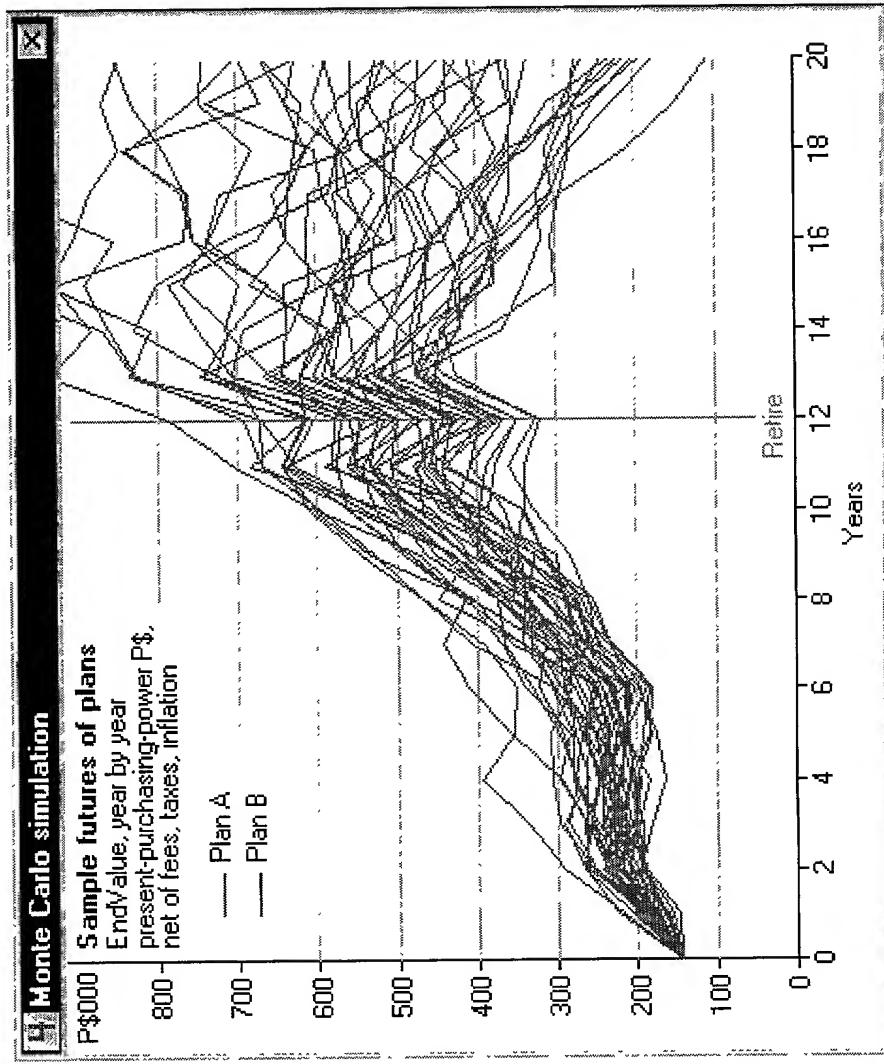


FIG. 24

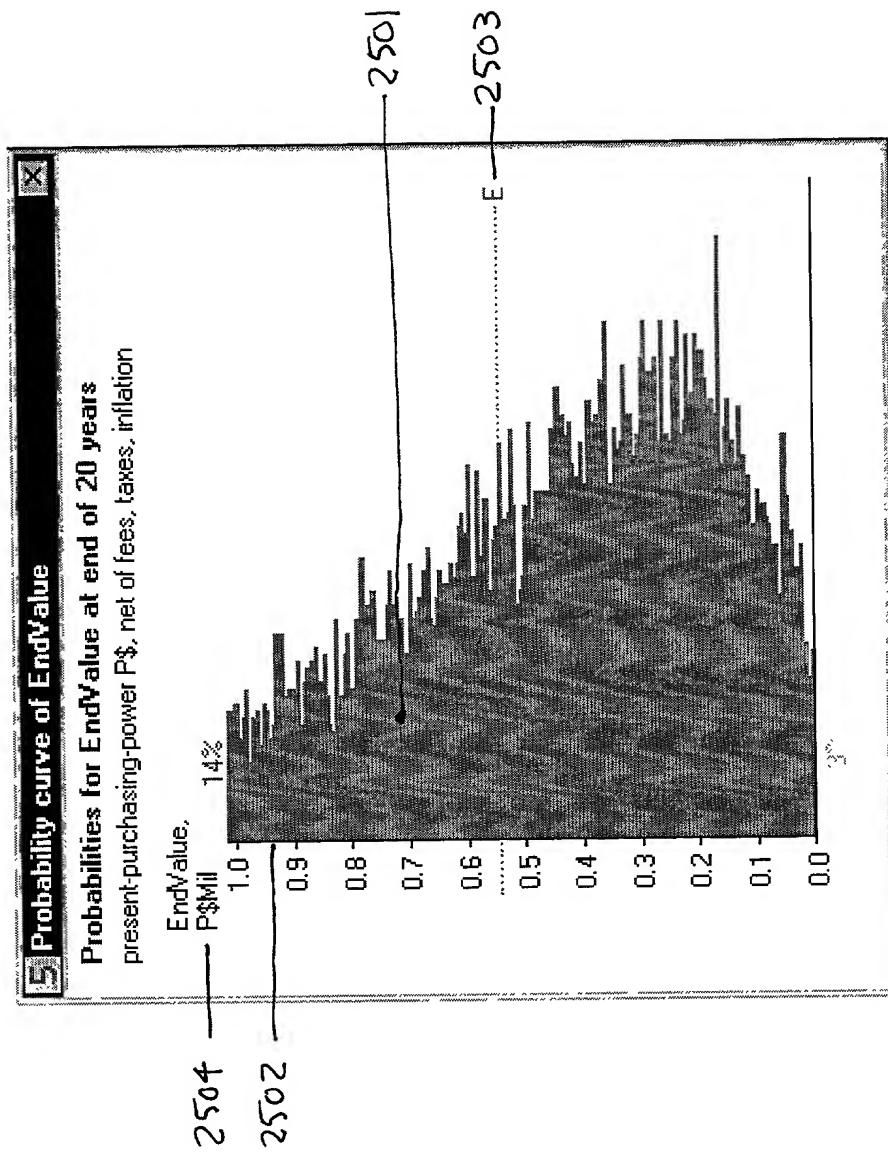


FIG. 25

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 26 of 45

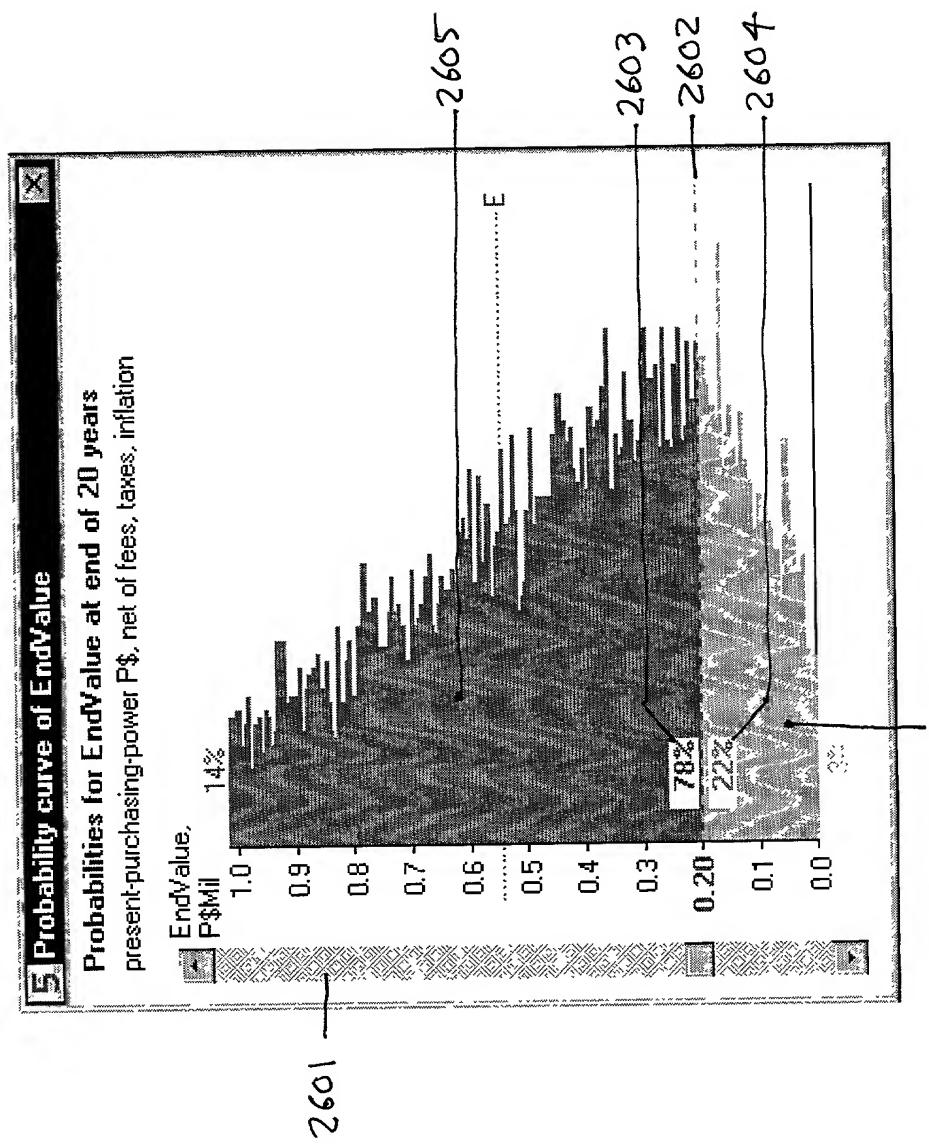


FIG. 26

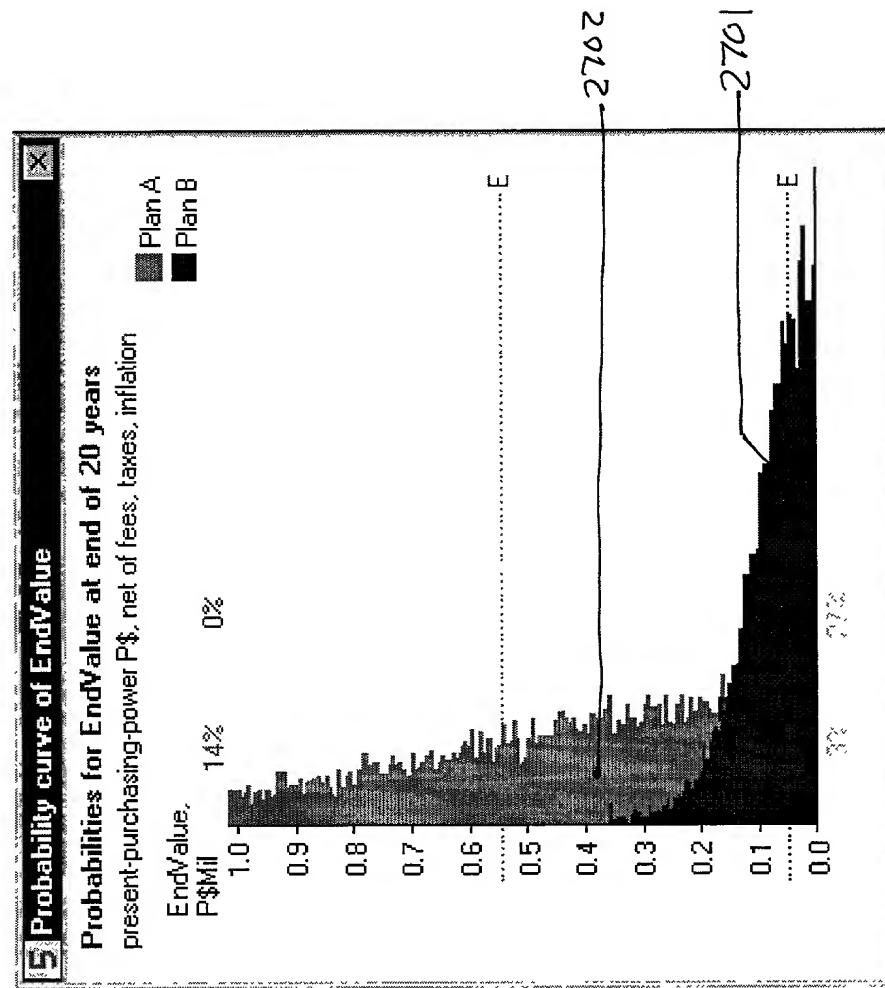


FIG. 27

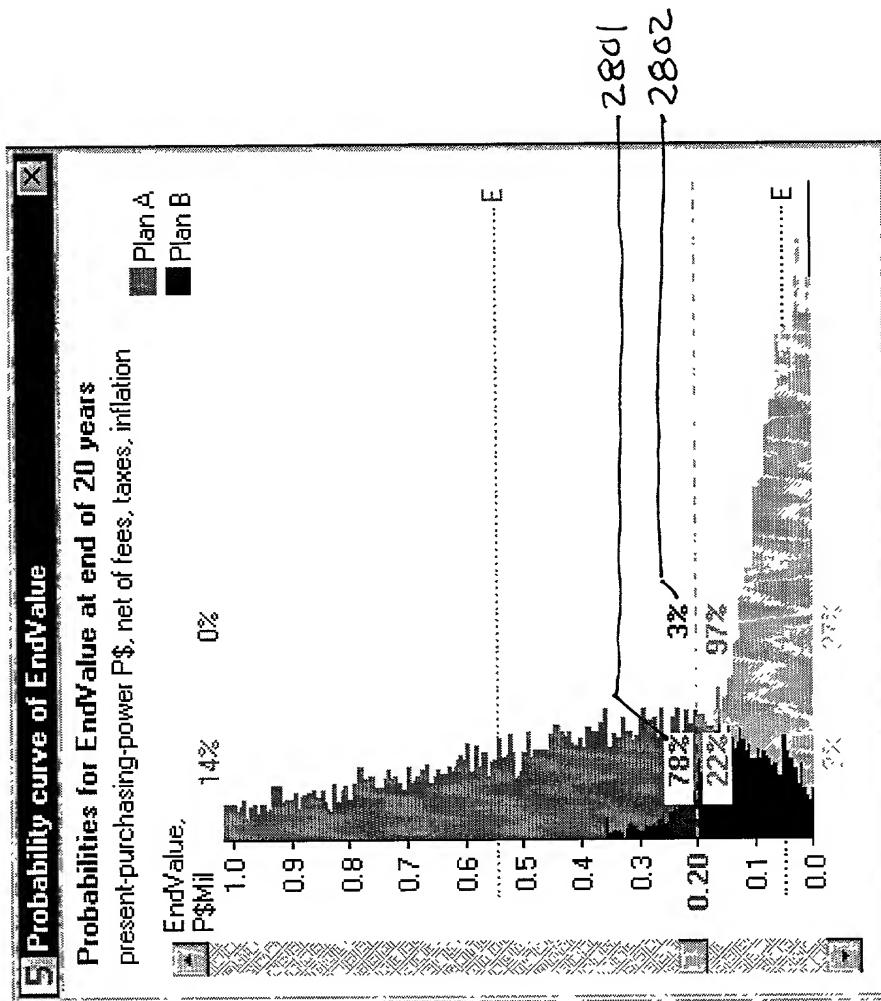


FIG. 28

2902

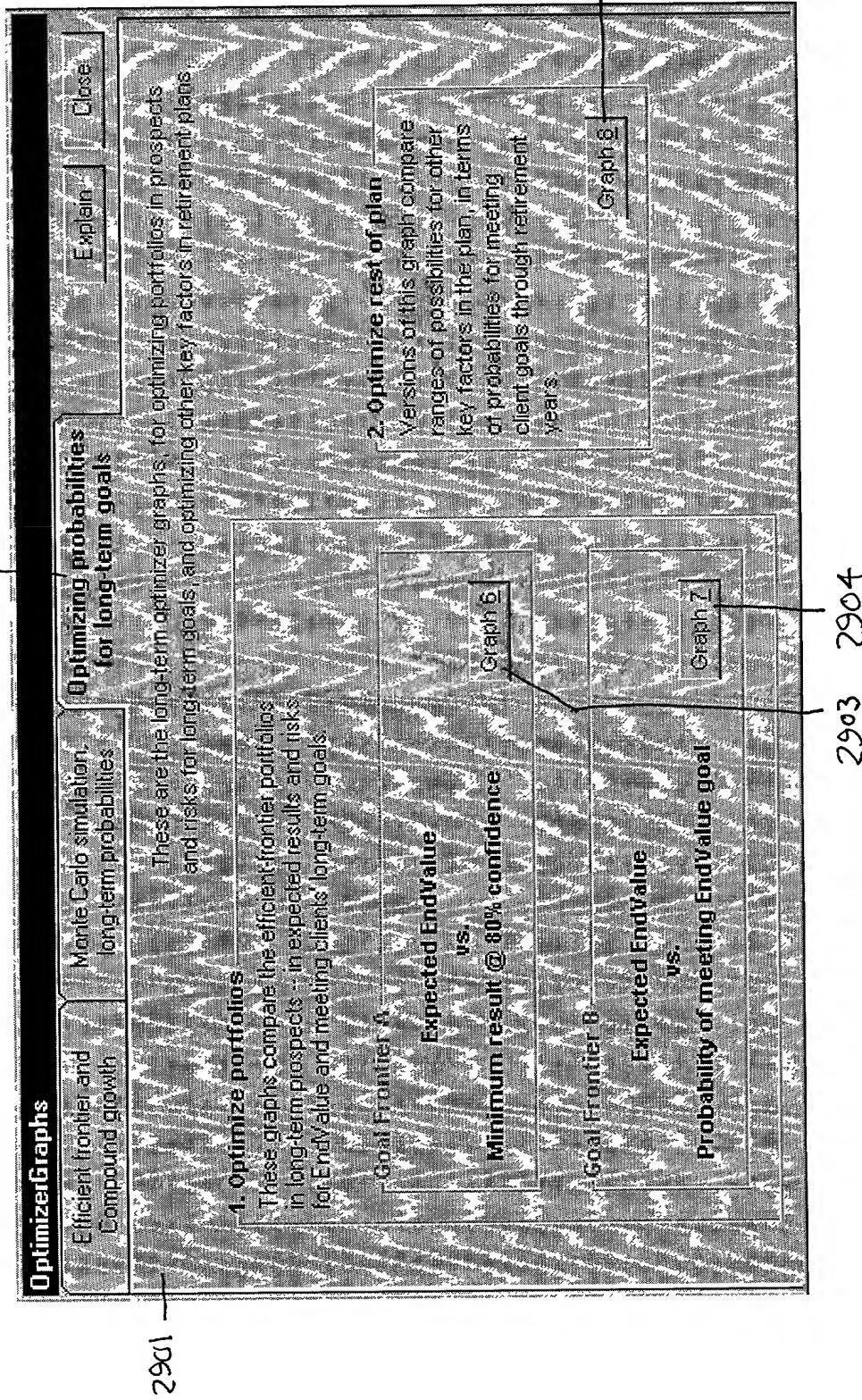


FIG. 29

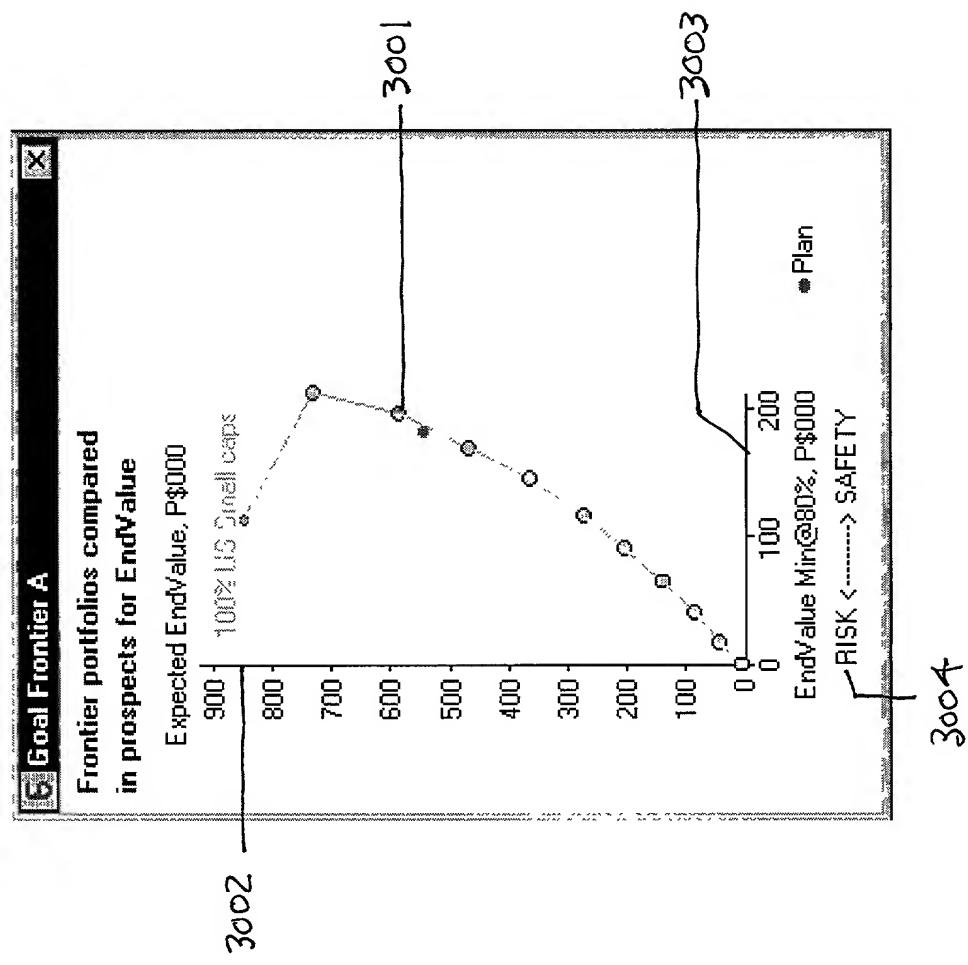


FIG. 30

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 31 of 45

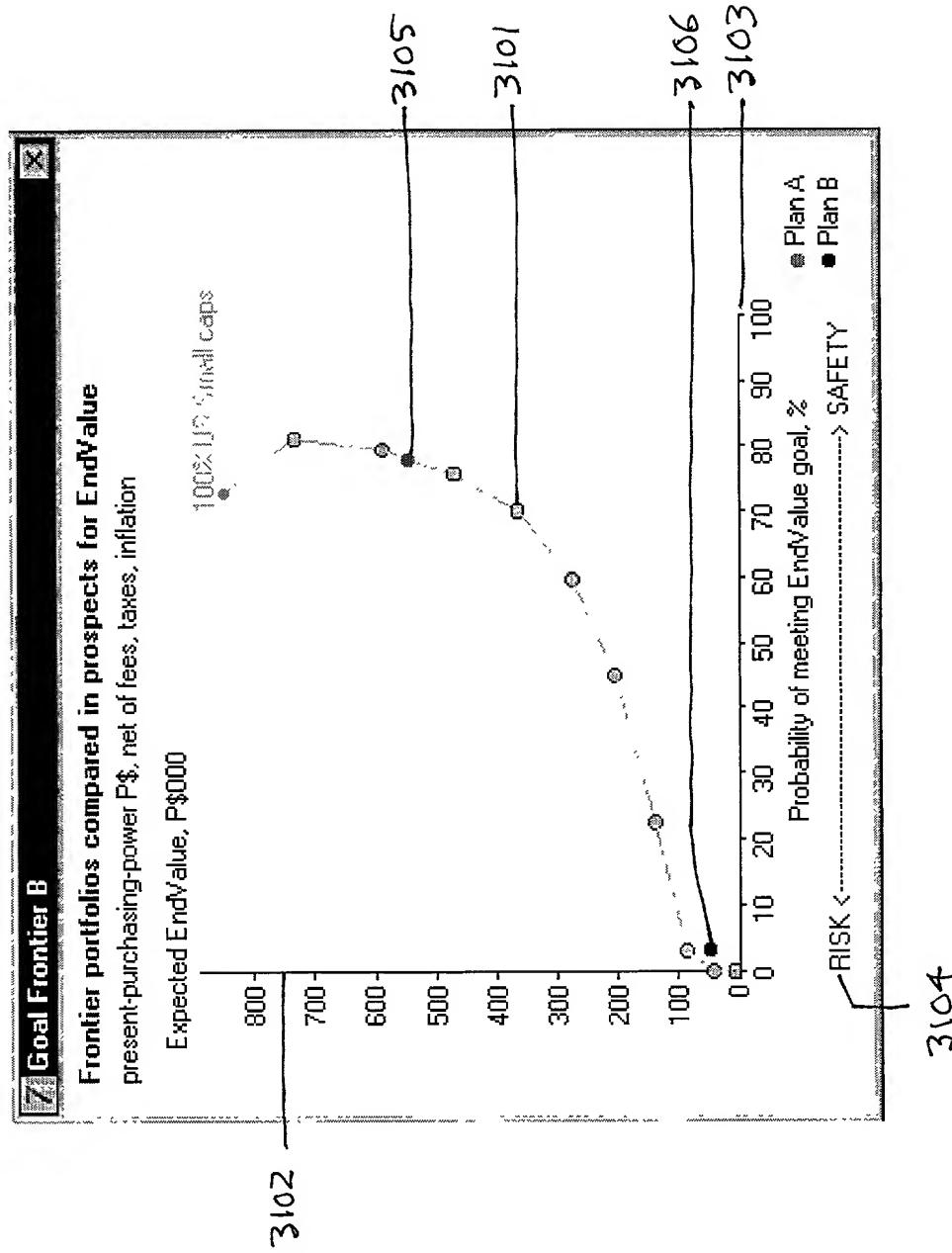


FIG. 31

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 32 of 45

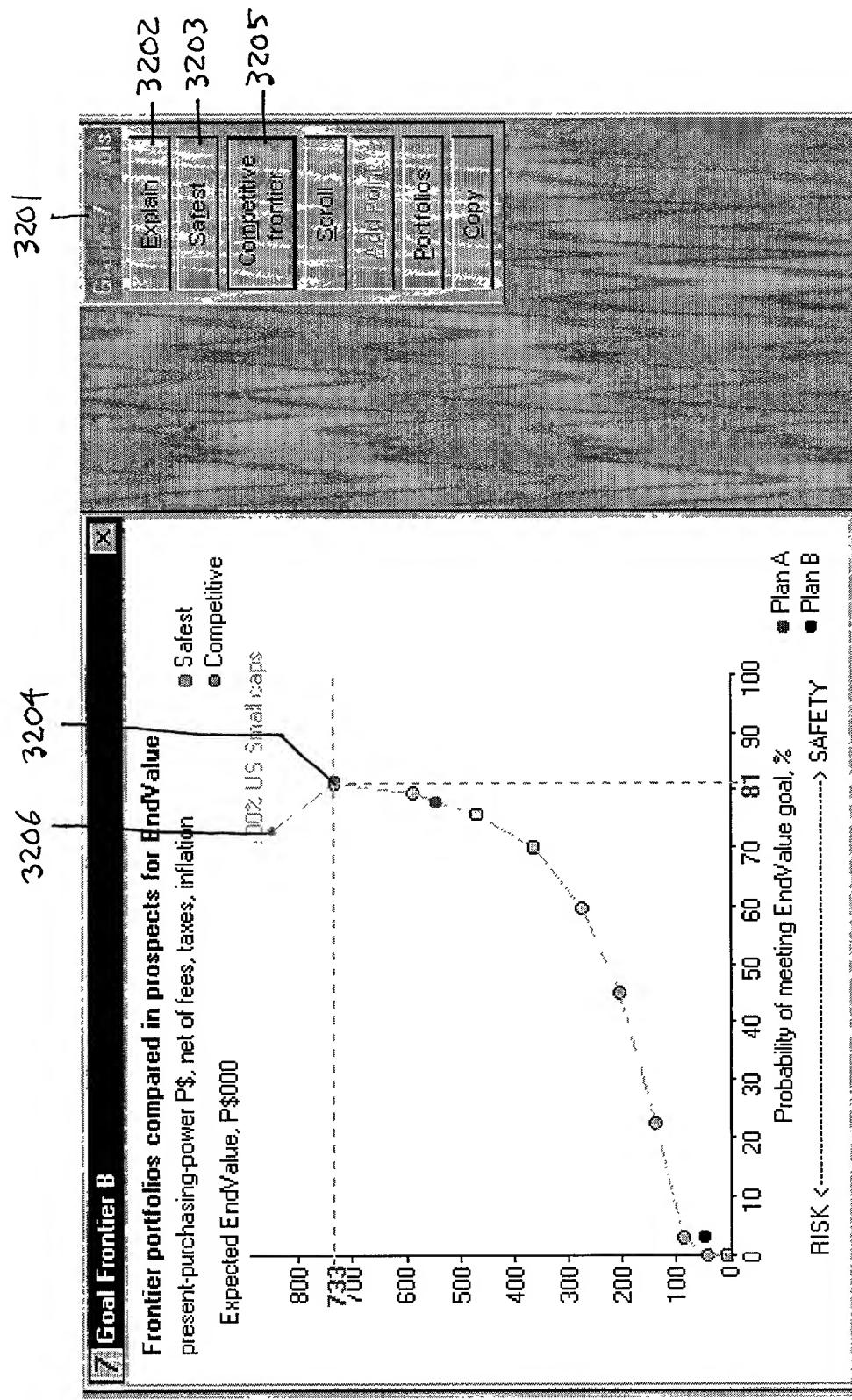


FIG. 32

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 33 of 45

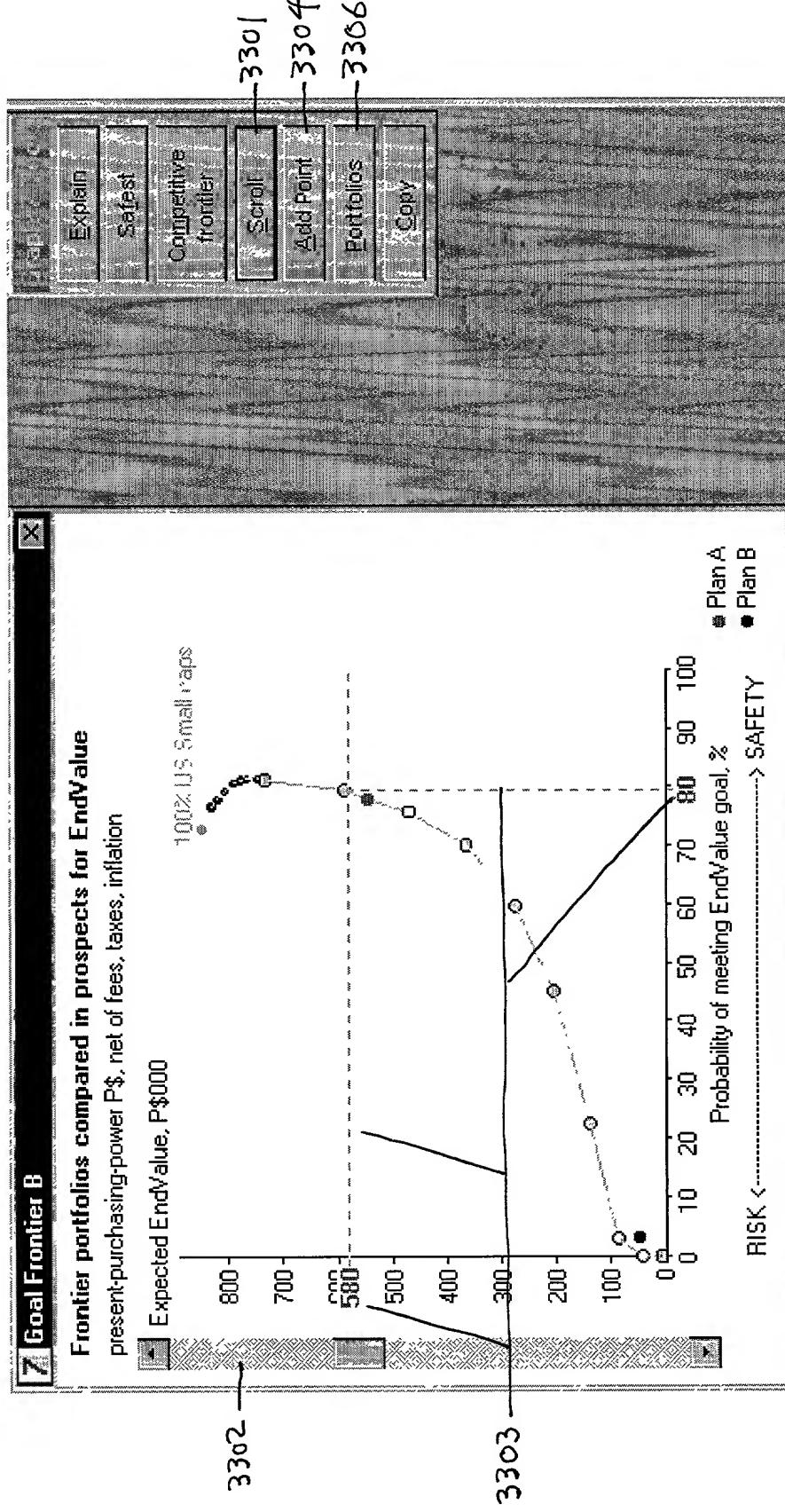


FIG. 33

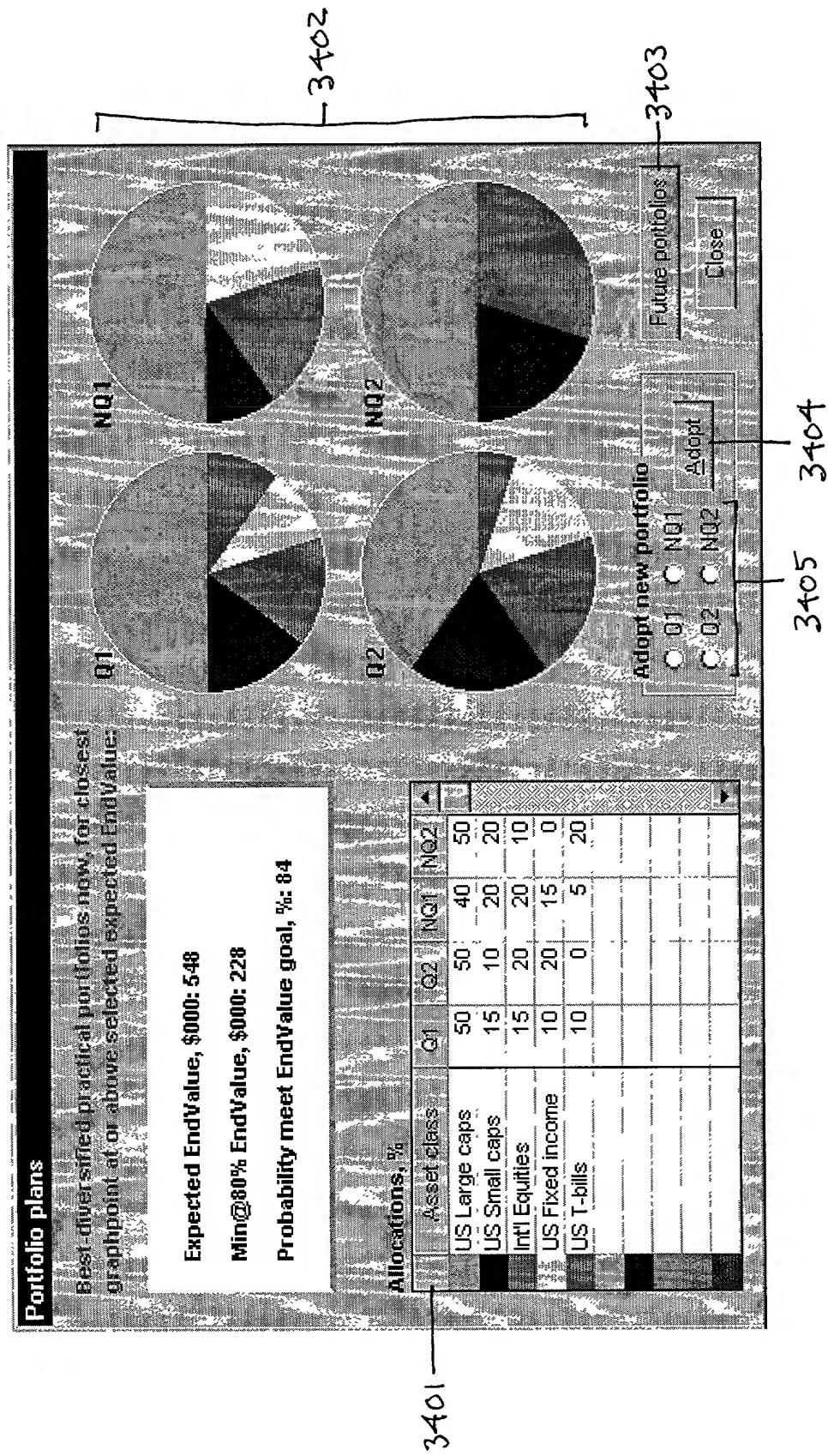


FIG. 34

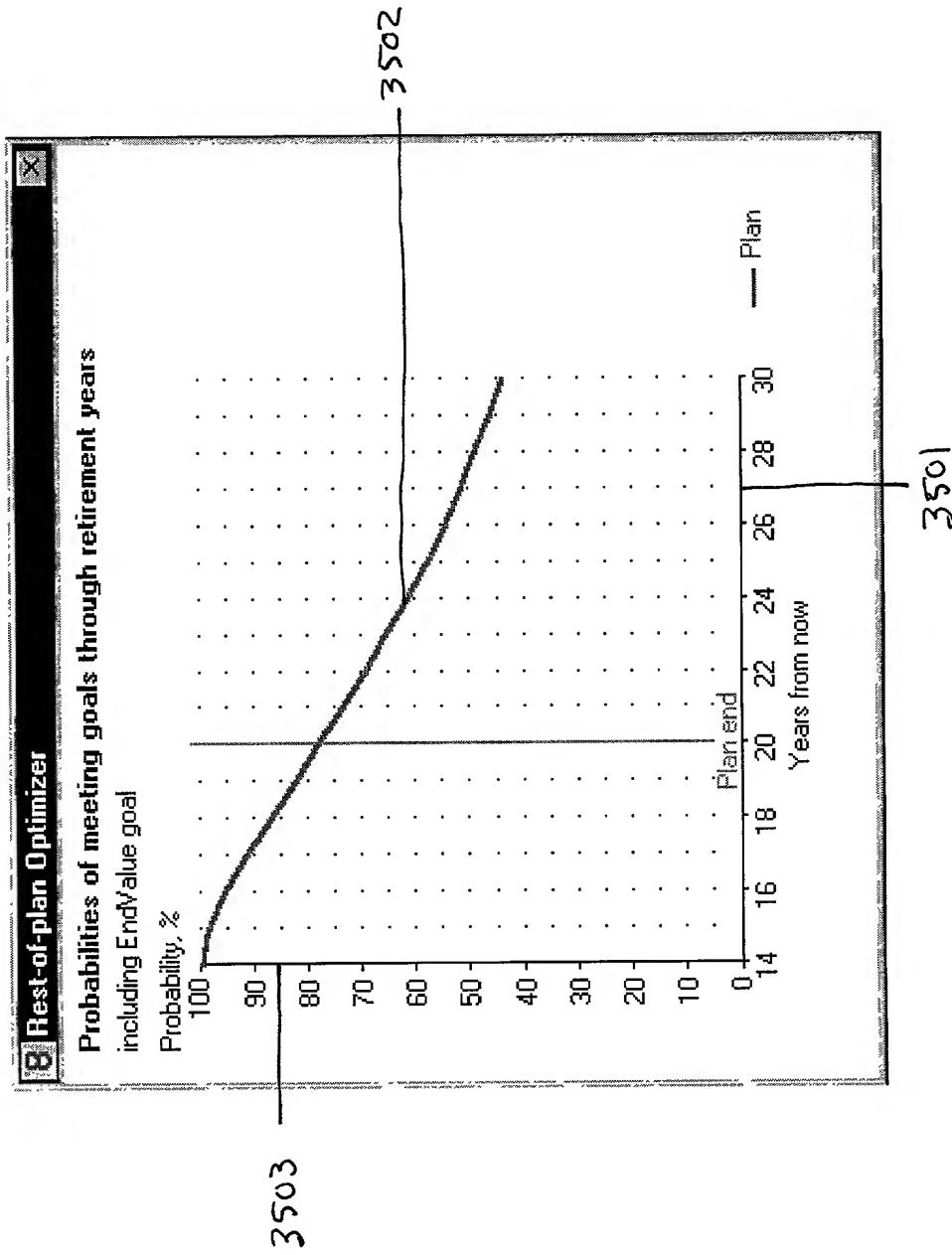
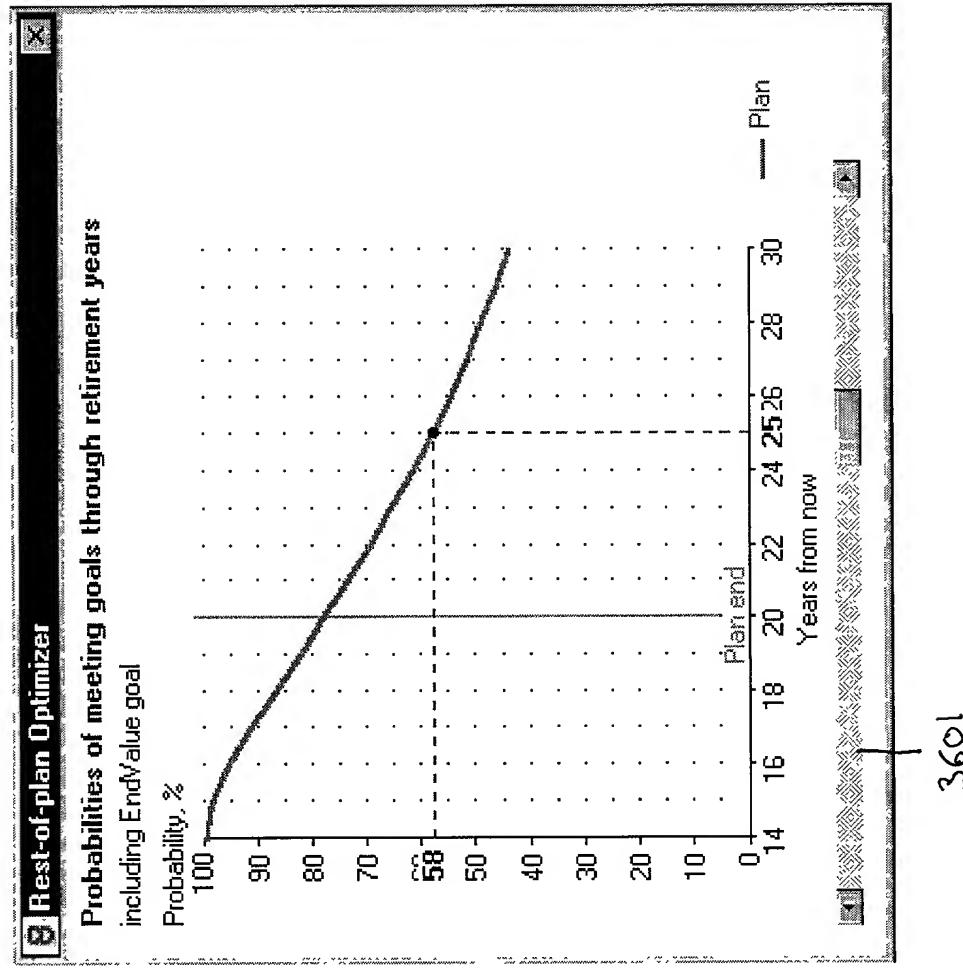


FIG. 35



Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 37 of 45

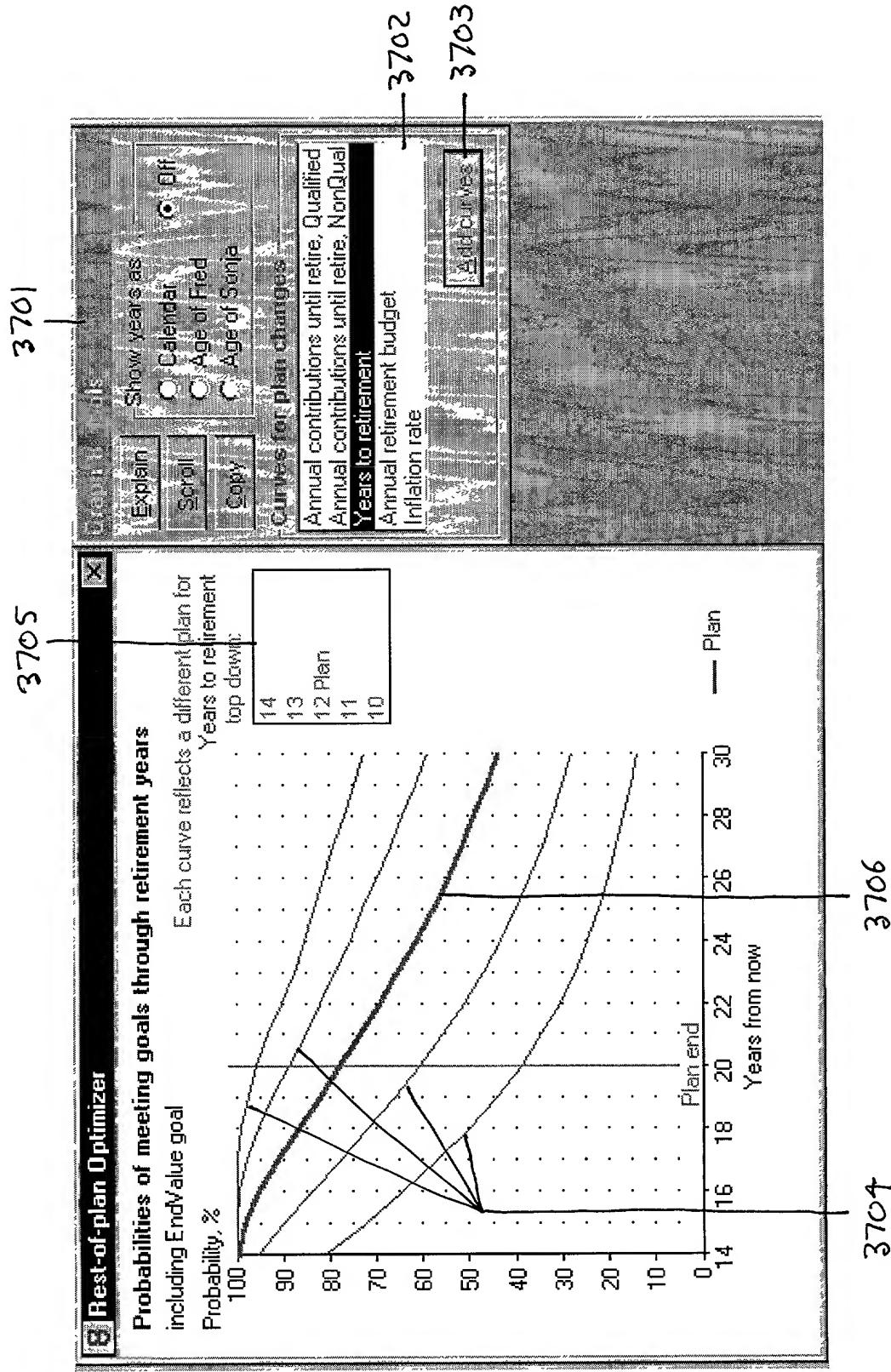
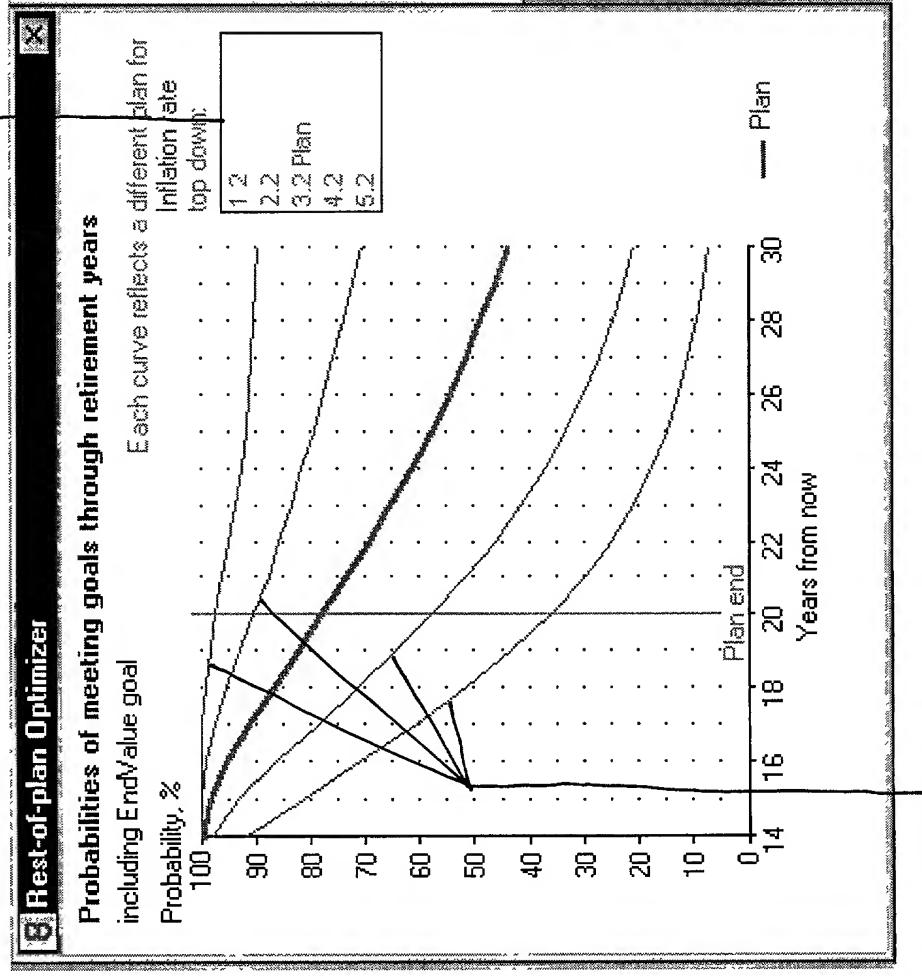


FIG. 37

Page 38 of 45

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 38 of 45

3803



3802

3801

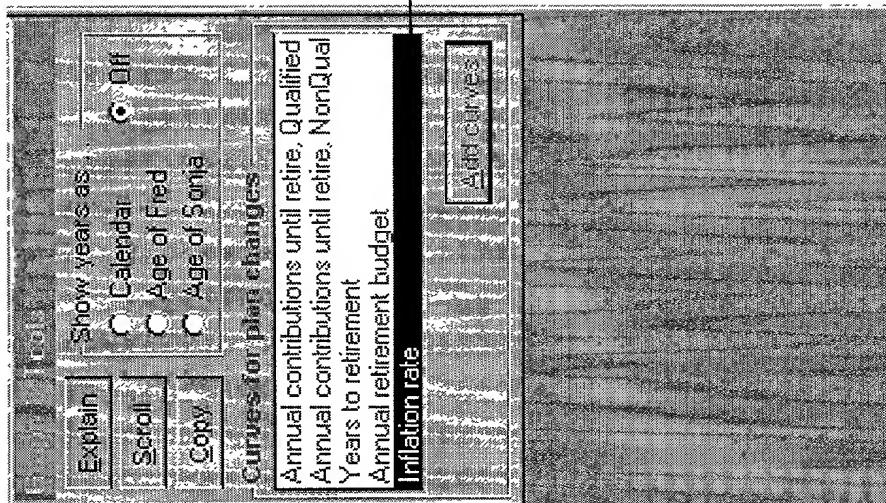
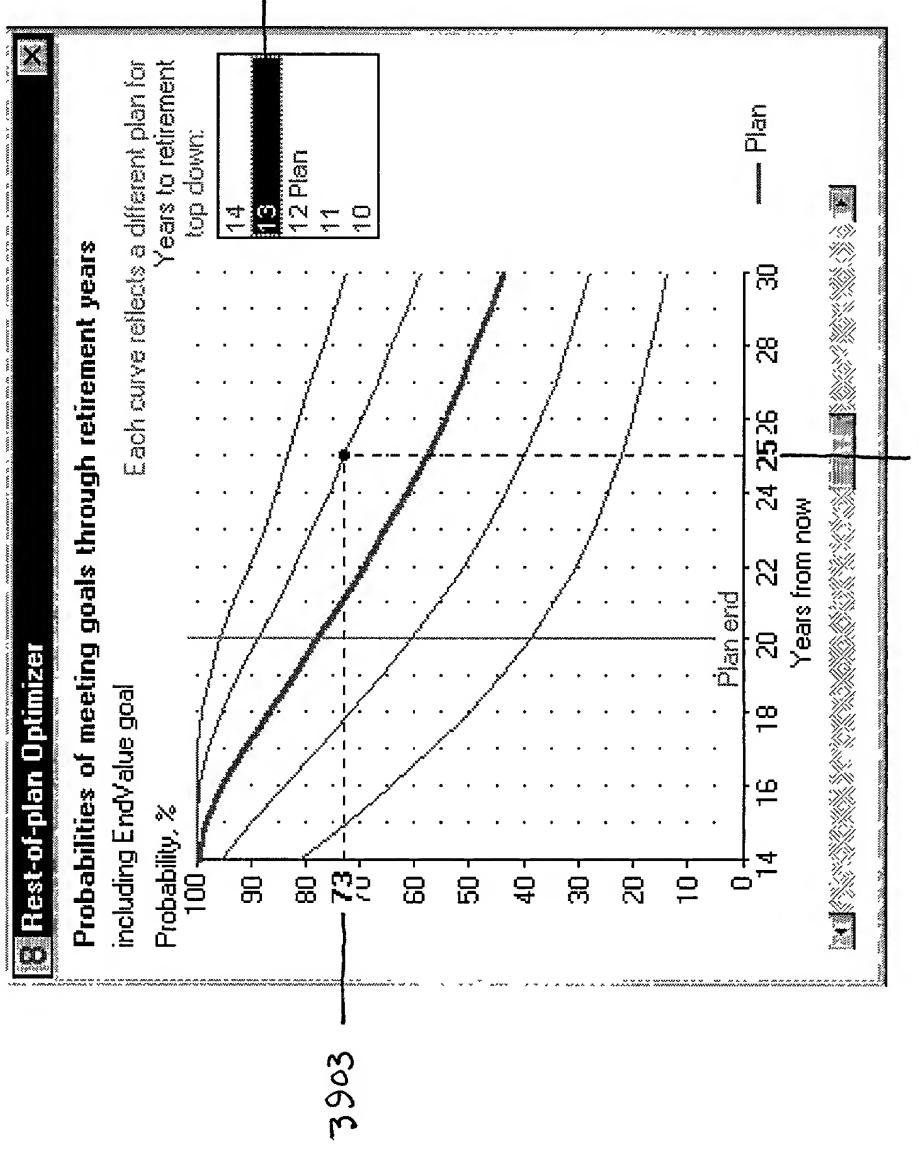
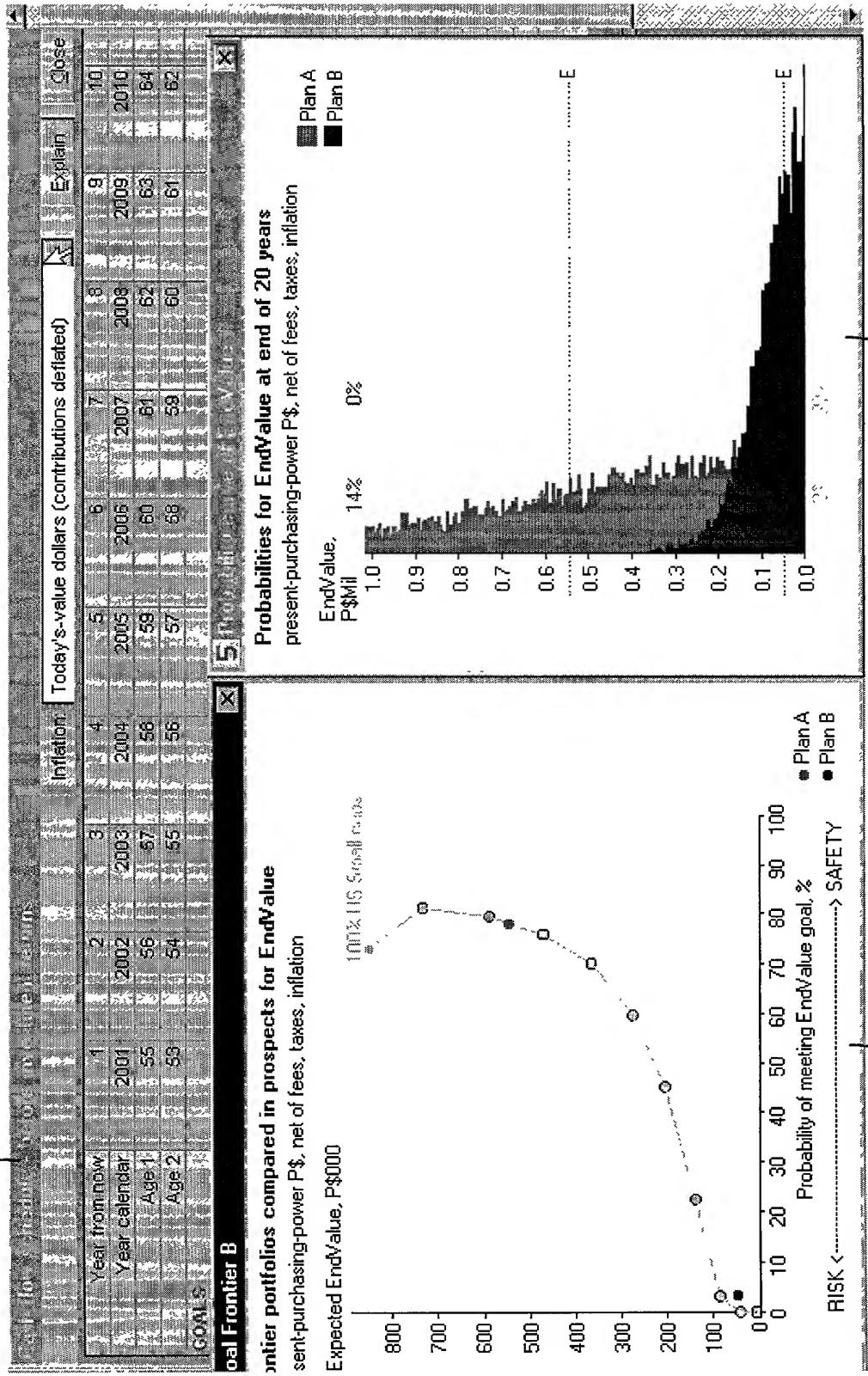


FIG. 38

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 39 of 45



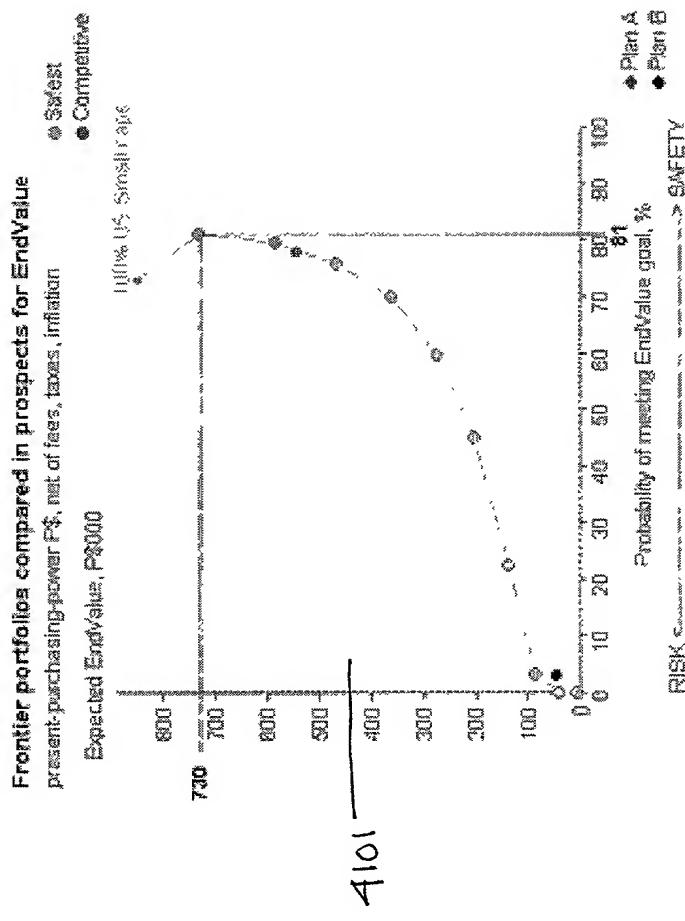
4001



4002

4003

FIG. 40



Also — This is a page in a word processing software product in which a graph from the novel long-term optimizing software has been copied and pasted and then this text added.

FIG. 41

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 42 of 45

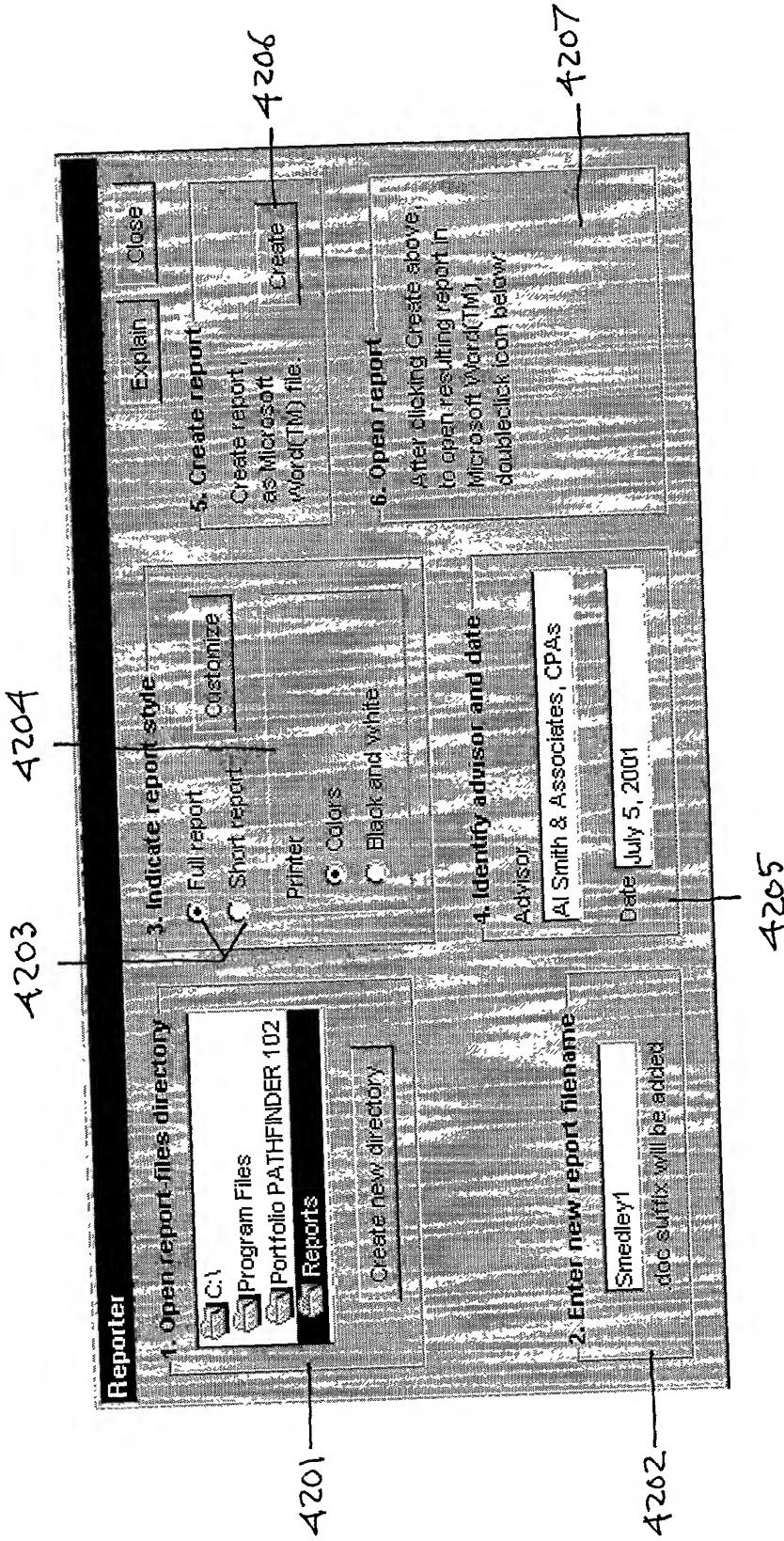


FIG. 42

FIGURE 43

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 43 of 45

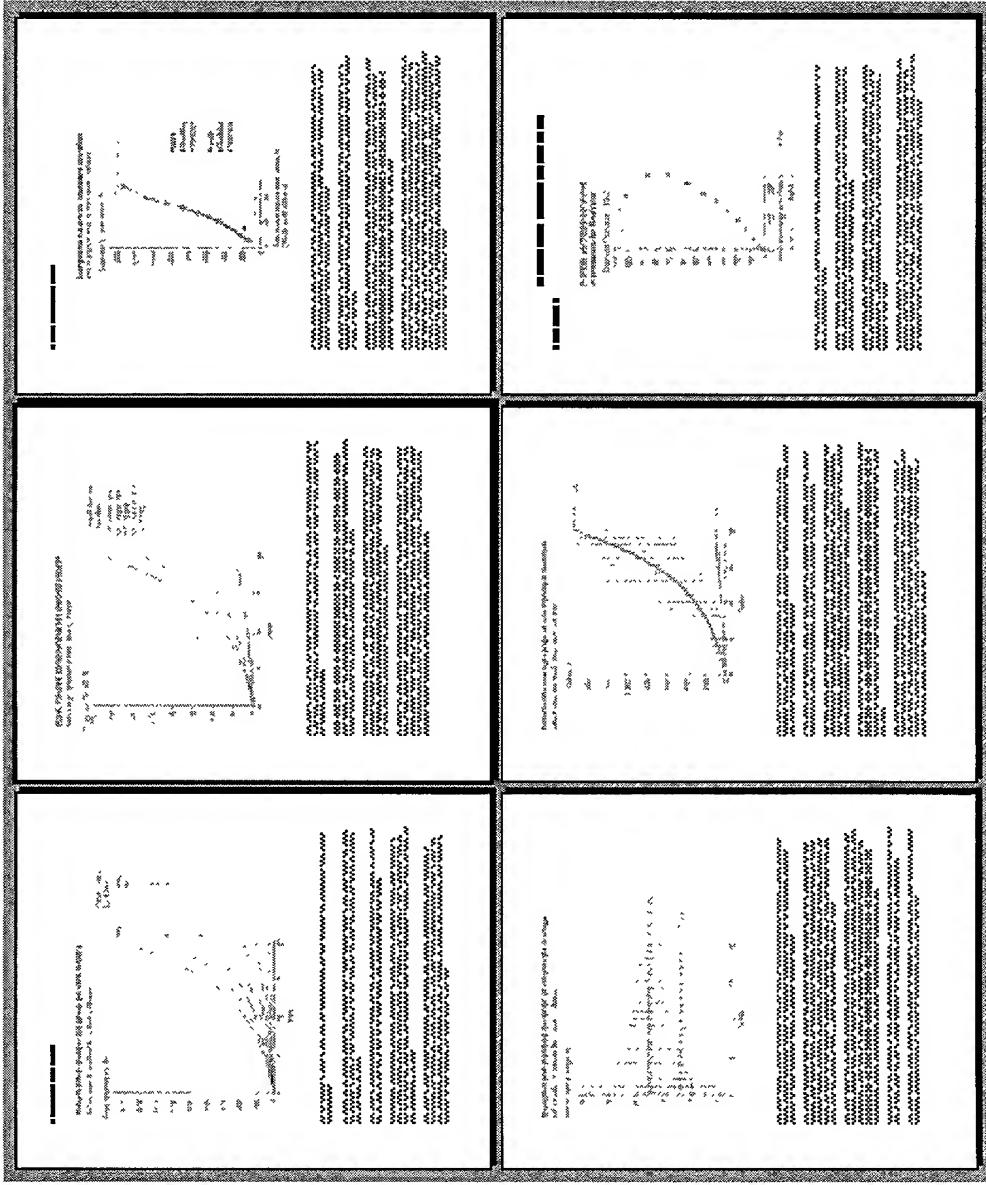


FIG. 43

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 44 of 45

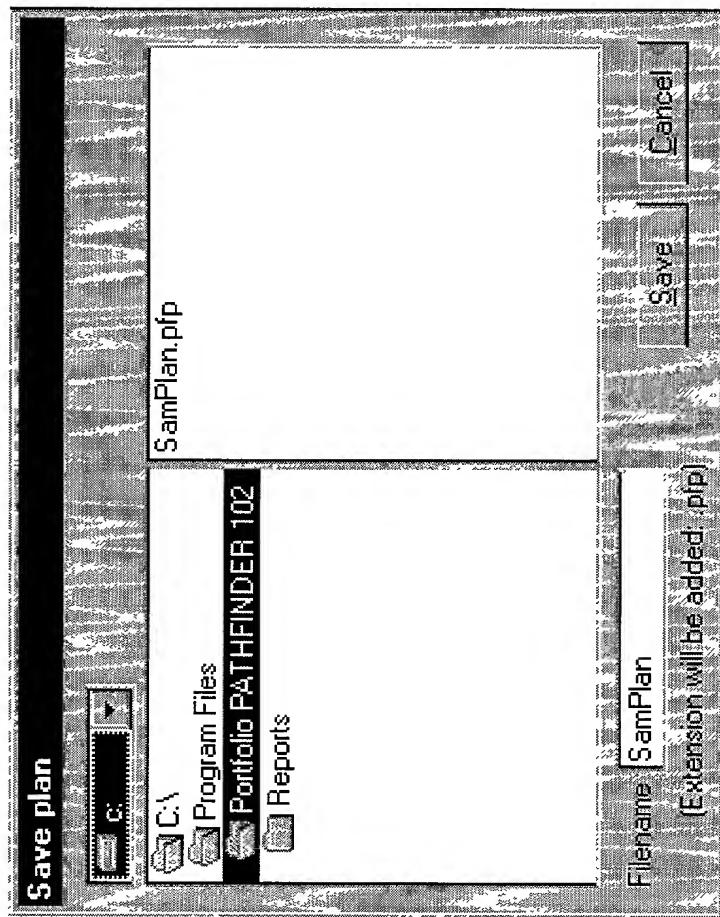


FIG. 44

REFUGES FOR BIRDS AND WILDLIFE IN THE UNITED STATES

Title: Method and Apparatus for Optimizing Investment Portfolio Plans for Long-Term Financial Plans and Goals
Inventor: W. Richard Purcell, Jr. Filing date: Dec. 28, 2001 W. Richard Purcell, Jr., 303-494-0399 Page 45 of 45

FIG. 45